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AN ARCHAEOLOGICAL SITE
NEAR
GLEESON, ARIZONA

WILLIAM SHIRLEY FULTON
AND
CARR TUTHILL

No. 1

THE AMERIND FOUNDATION, INC.
DRAGOON, ARIZONA
1940

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INTRODUCTION

The Amerind Foundation, having for its purpose the fostering of scientific, educational, and archaeological study and pursuits, was incorporated in 1937 under the Laws of the State of Connecticut.

This record of its excavations near Gleeson, Arizona, the first publication of the Foundation, crystallizes a belief long held by the Director that only in making available successive records of the work it accomplishes can the existence of a research institution be justified.

The text of this monograph is largely the work of Mr. Carr Tuthill whose competent supervision of the actual excavations and whose adequate field notes have made possible the completeness of this report.

It is hoped that from within these covers, as from the pages of other publications to follow, something of value may accrue to the accumulating store of knowledge of Southwestern archaeology and that herein the student may find at least partial solutions to some of the involved problems the subject now presents.

The museum building of the Foundation is located at Dragoon. On exhibit there, will be found not only the material from Gleeson but that from earlier excavations at Texas Canyon, together with numerous specimens that have come to us through the generosity of friends who have shown an interest in our activities.

The Museum is open during the winter months, when we are most happy to admit students and other interested visitors by appointment.

The Amerind Foundation, Inc.
William Shirley Fulton, *Director*

Dragoon, Arizona
August, 1940

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AN ARCHAEOLOGICAL SITE NEAR GLEESON, ARIZONA

The Ruin

THE Gleeson village is located in the West half of the Northwest quarter of Section 11, Township 30 South, Range 24 East, of Cochise County, Arizona, at an altitude of five thousand feet above sea level. It lies about two and one half miles southwest of the small mining community of Gleeson, on the ranch property of Mr. Henry McLinden. The site covers an area of approximately four acres on a long, low ridge that slopes off gently to the southwest. A small gully about three feet deep and five or six feet wide has cut through the ruin on the east side in recent years exposing one pit-oven and two badly deteriorated floor areas. It was reported by the ranch owner that an adult burial was also exposed and destroyed by the erosion of the gully.

About one mile north of the ruin rises the southern end of the Dragoon Mountains. A low ridge one mile west separates Sulphur Springs Valley, in which the Gleeson site is located, from the drainage which flows westward to join the San Pedro River near Fairbank. The arroyos in the vicinity of the ruin flow a little west of south for several miles before turning to the southeast to join the Sulphur Springs drainage proper. The very oppressive summer heat is diminished by the altitude and nights are always cool enough for a blanket if one is sleeping outdoors. Snow storms may be expected occasionally in the winter, sometimes covering the ground to a depth of six or eight inches.

The site had been pot-hunted sporadically for twenty five years or more, apparently without much success. This may be due to the fact that present surface markings give no clues to the location of houses or pits. The only surface indications of a village are the presence of fairly numerous sherds, small and broken stone implements, and flint and obsidian chips.

A short distance west of the ruin are approximately one hundred acres of land that were under dry farm cultivation until ten or fifteen years ago. This same land had undoubtedly been cultivated by the inhabitants of the village. Mr. McLinden reported that when he started ranching there twenty five years ago, a spring with a good all-year-round flow was located in the large arroyo between the ruin and the arable land. Although no traces of ditches remain today, the spring was sufficiently far up the arroyo for its waters to have been used for irrigation. The only vegetable products uncovered during excavation are two instances of charred corn kernels.

The region is still fairly abundant in small game, both animals and birds, and larger game is to be found in the nearby Dragoon Mountains. Both mule deer and peccary were reported seen by the rancher within a mile of the ruin, during the winter months. That the inhabitants of the village lived almost entirely on an agricultural economy is evidenced by the paucity of animal bones found. The species represented are:

Antelope (*Antilocapra americana*)
Deer (*Odocoileus*)
Rabbit (*Lepus*)
Dog (*Canis familiaris*)
Hawk (*?*)

The surrounding country supports a rather heavy growth of grasses, the seeds of some of which may pos-

sibly have enhanced the food supply. Mesquite, hackberry, yucca and occasional cholla and prickly pear are found. Cottonwood, ash, walnut and sycamore grow along the arroyos. Live oak and manzanita are present in the nearby mountains.

METHODS OF EXCAVATION

An area six hundred by eight hundred feet, somewhat larger than that covered by surface sherds, was surveyed and marked into one hundred foot squares by consecutively numbered stakes. A series of parallel exploratory trenches about ten feet apart, crossed at right angles by another parallel series, were then dug. This method of procedure was necessitated by the fact that no surface architectural features were present. As fast as the houses were found in this manner, they were completely excavated. Many of the burials were located while trenching. When the entire sherd area had been transected and sterile soil reached on all sides, the untouched areas between the trenches were excavated. In this way the trenches were filled in and the surface leveled off approximately to its former condition. However, all architectural features were left uncovered until the completion of the excavation. The location of every item and feature found was plotted in its relation to two of the survey stakes.

There are no trash mounds at the Gleeson site, and the shallow depths of the sheet rubbish prohibited any stratigraphy. The surface must have been subject to considerable erosion after the abandonment of the village, as many of the burials are found at depths of from one to three or four inches, and the plaster-on-soil walls of Pit-house 3 are at the present surface level. Several of the pieces of pottery that did not accompany burials or cremations, and that were found in the general digging, were at such shal-

low depths that another inch or two of erosion would have exposed them.

HOUSE TYPES

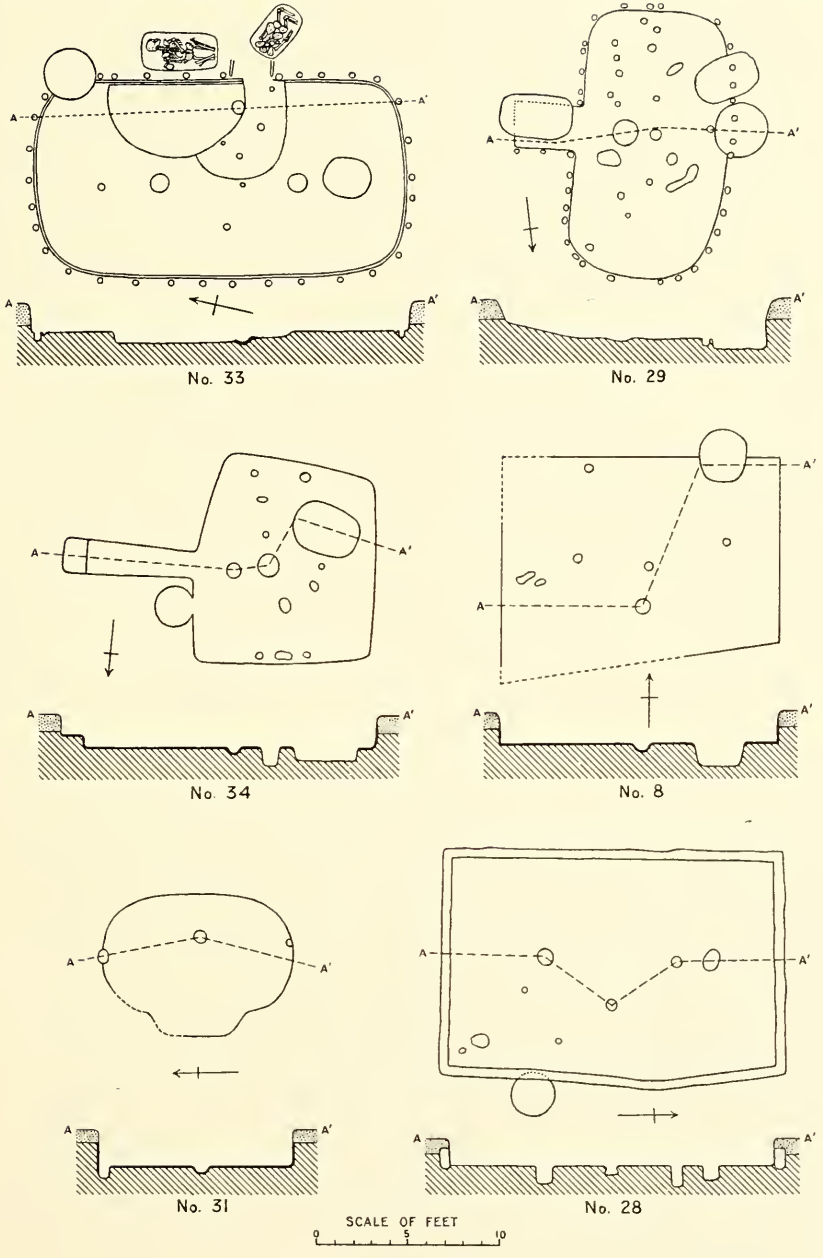
House forms may be classified into six main types which are as follows:

HOUSE TYPE I

This is not reported as occurring elsewhere and seems to be peculiar to the Gleeson site. In the main it resembles House Type II in that the general method of construction and outline is quite similar to middle and late Colonial Hohokam houses reported at Snaketown.[1] The chief difference, and the feature which distinguishes this type of house, is a depressed area of from four to eight inches around the fire pit, varying in dimension depending upon the size of the house, but constituting about one-sixth of the total floor area. The entrance vestibule opens into this depressed area. In many respects this floor arrangement is similar to that found at Roosevelt: 9: 6[2] where, except for the area immediately adjacent to the fire pit, a wooden and earth floor had been raised on stone stilts or piles.

It has been suggested by Gila Pueblo, under whose auspices the work at Roosevelt: 9: 6 was conducted, that because of the location of the site near the Salt River, on land that was easily flooded, the inhabitants by raising the floor on stilts were able to keep at least a part of it dry even when the house was inundated. However, as Dr. Haury points out, this arrangement had the effect of almost nullifying the pit in which the house had been built by bringing the floor level almost to the surrounding ground surface.

[1] Sayles, E. B., 1937, pp. 61–71.
[2] Haury, E. W., 1932, Fig. 12; p. 45.



HOUSE TYPES

NO. 33 TYPE I	NO. 29 TYPE II	NO. 34 TYPE III
NO. 8 TYPE III	NO. 31 TYPE V	NO. 28 TYPE VI

This does not hold true at the Gleeson site where the pit-houses are located on a low ridge and could have been in no danger from flood waters. In contrast to the construction at Roosevelt: 9: 6, the depressed area is always found sunk below the rest of the floor.

Another feature of this type of pit-house that is similar to, and yet unlike, the house at Roosevelt: 9: 6 is the presence of a reed groove around the periphery of the floor,[1] the essential difference being that at Gleeson this groove is located inside of the line of posts which formed the main side wall supports, while at Roosevelt: 9: 6 it is found outside of this row of posts. This would suggest a different manner of vertical side-wall construction.

Entrance ramps are short and straight-sided. No examples of a stepped entrance are found with this type of house.

Houses 1, 23, 24, 25 and 33 belong to this type.

HOUSE TYPE II

This type is practically the same as Gila Butte and Santa Cruz phase pit-houses from Snaketown[2] and, in the main, much like House Type I. The entrance ramps are sloping and straight-sided. No evidence of a stepped or bulbous entrance has been found. Many of the houses are in such poor condition that no entrance can be determined. The fire pits are located in front of the entrance, midway between it and the center of the house. Some of the houses of this type are elliptical in shape. Others have slightly convex sides with rounded corners and ends. In two instances (Houses 5 and 29) the floors are pitted with holes, all of which cannot be post holes, or there would not have been room to move about the interior because of the forest

[1] Haury, E. W., 1932, Pl. V.

[2] Sayles, E. B., 1937, pp. 61–71.

of roof supports. While some of the holes were undoubtedly caches, since small articles of turquoise and shell were found in the bottoms of them, many have been made by the ubiquitous gopher who had damaged nearly all of the houses on the site. Houses and floor areas 5, 6, 9, 14, 18, 19, 29, 30 and 32 are of this classification.

HOUSE TYPE III

This type includes those pit-houses found at Gleeson which most closely resemble the Mogollon dwellings of the Three Circle and San Francisco phases.[1] However, they are not as deep as those found by Haury, nor those by Bradfield at Cameron Creek.[2] All are of the plaster-on-soil type, with straight sides, vertical or slightly sloping sidewalls, and square or sharply rounded corners. The only complete entrance found in this class is typically Mogollon in that it is as long as the house is wide and very narrow in proportion, with one step. The fire pits are located, as in the Hohokam type, in front of the entrance and midway between it and the center of the house. The plaster coating on the side walls is on both native soil and rubbish. The four major roof supports are located in the corners. It must be remembered that a rectangular, square-cornered, plaster-on-soil pit-house found at Snaketown in the Sacaton phase, is considered an intrusive type;[3] and, also, that Woodward believes the plaster-on-soil houses at the Grewe site to be typically Hohokam.[4]

House numbers belonging to this class are 8, 10, 22, 34 and 35.

[1] Haury, E. W., 1936b, pp. 18–21, 58–63.
[2] Bradfield, W., 1931, p. 16.
[3] Sayles, E. B., 1937, p. 63.
[4] Woodward, A., 1931, pp. 9–11.

HOUSE TYPE IV

This might be classified as a sub-type of III, since there are many similarities in construction. Only the north and west walls, the northwest corner, and part of the badly broken floor of one house of this type have been found in the entire site. Neither the entrance, the fire pit, nor any interior post holes can be traced.

The chief point of difference between Types III and IV is that in the latter the floor curves up to form the sidewalls which show a decided outward slant. It is probably safe to assume, lacking further knowledge of the type but considering the plaster-on-soil manner of construction, that the super-structure and roof were built in the same way as those of Type III. Pit-house 3, the only one of this type, is very shallow, having a depth of only seven inches. The plaster which forms the side walls extends up to the present surface level. The radius of the corner where the floor begins to slope upwards into the wall is between twelve and fourteen inches.

HOUSE TYPE V

From the single example found this may also be classified as a sub-type of III because of the plaster-on-soil manner of construction, but again, as in Type IV, there is an essential difference that distinguishes it from III. The vertical side walls of Pit-house 31 are plastered only on native soil. Though very small, the house had evidently been used for living quarters, since a fire pit occurs near the east wall. The house is elliptical in shape with the addition of a small alcove or recess about eight inches deep along the west wall. There is no entrance discernable. What appear to be post holes exist at the extremities of the long axis of the house.

HOUSE TYPE VI

As in the two preceding groups, VI is represented by one house. The sub-surface walls appear to have been made of puddled adobe in a manner similar to those found at the University Ruin near Tucson. The house is fairly large, measuring eighteen feet by twelve feet two inches, and the walls are from six to eight inches thick, standing eleven or twelve inches above the floor. The depth from the surrounding surface to the floor level is only fifteen inches. The north, west and south walls are straight, that to the east being slightly convex. The corners are square. No entrance can be discerned. The fire pit is located about half way between the center of the house and the east wall and midway between the north and south walls. Two large post holes are located on the north-south axis. An undercut storage pit was found on the outside of, and recessed under, the east wall.

All of the houses have suffered from the depredations of time and weather and, more especially, from gophers' burrowings. In the case of Pit-house 5, they are responsible for the obliteration of the whole southern end of the house. Many of the floors are pock-marked with their holes.

In not a few cases, only a portion of a house area can be traced. In these instances, if a fairly large floor area can be demonstrated, or if some feature of the house, such as a fire pit or a corner of a wall, is judged sufficient to give an idea of the type of house, it is referred to as a "floor area," and numbered with the houses.

Surprisingly few evidences of domestic activity come to light in the excavated houses. But few bowls or ollas, either broken or whole, are found on the floors, and, with the exception of a small quantity of animal bones, only one

food item was recovered—a few kernels of charred corn in a small olla—from the floor of Pit-house 28. No evidences of any perishable materials such as basketry, cloth or matting exist.

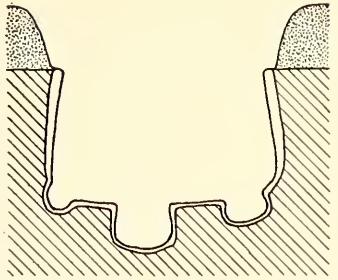
PIT–OVENS

The types of pit-ovens found appear to have their focus in Sulphur Springs Valley. They were first reported from this region by Trischka,[1] who discovered them in a site some ten or twelve miles south of the Gleeson village. They have also been reported in the surrounding territory. One was found exposed in the arroyo bank near Stockton Hill, about four miles west of the Gleeson site. Because of the little excavation done in this area, the distribution of these pits cannot be given at the present time; nor, for the same reason, can their chronological range be suggested. The three sites excavated in the Dragoon Red-on-Brown area, Texas Canyon, Gleeson, and Pearce; 7: 1, all belong to the late Colonial and Sedentary periods, covering probably, some four hundred years, from around 800 to 1200 A. D.

The pits vary considerably in both size and shape. Though a few have vertical side walls, the majority of them are under-cut and are shaped much like ollas. Others are more or less a truncated cone with slightly bulging side walls and rounded bottom. They range in diameter from fourteen inches to six feet, and in depth from sixteen inches to six feet two inches.

All of the pits show evidence of having undergone intense heating, the side walls and bottoms being burned to a brick red for a depth of as much as six inches. Most of them are from one-third to one-half full of fire-fractured

[1] Trischka, C., 1933, pp. 427–430.



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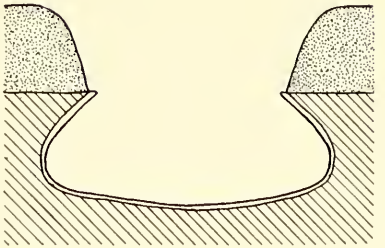

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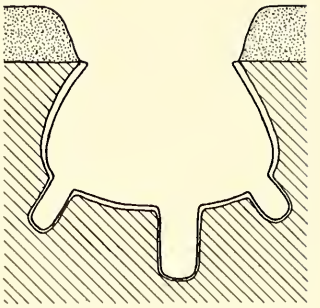

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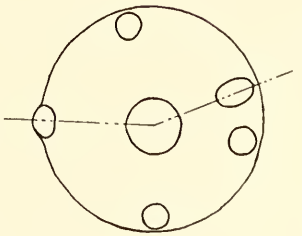

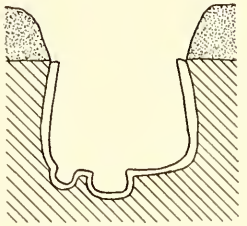

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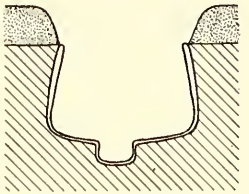

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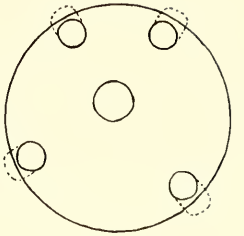
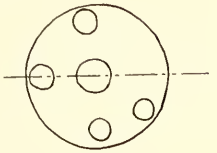
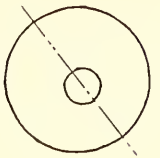
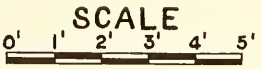








PIT-OVEN TYPES

stones of considerable size, many of which are large fragments of metates and mortars. Ashes and charcoal are relatively scarce, but, though no traces of animal bones or vegetable matter that might serve as a clue to the use of these pits are found in them, it is to be presumed that in some manner they were employed for the preparation of food. It has been suggested that they are a type of crematory pit, but their number (41) is far too great in relation to the cremations found (9) for this hypothesis. It has also been suggested that they were used as kilns for the firing of pottery. This, too, can be ruled out because of the lack, in and around the pits, of fragmentary pieces of pottery broken during the process of firing.

It would seem logical to assume that these pit-ovens are a prehistoric form of fireless cooker. It is probable that a fire was built in the pit to heat it thoroughly, and at the same time, the large stones were heated in a surface fire nearby. When the desired temperature in both the pit and the stones was attained, the oven was cleaned out, leaving as little ash and charcoal as possible, and the heated rocks rolled into the pit. The food, vegetable or animal, was then placed on top of the rocks and probably the whole pit covered over. In this manner the heat would be held in the pit and the food slowly and throughly cooked.

To substantiate this theory, attention is directed to Mindeleff's description of Pueblo ovens: [1]

> " In all the oven devices of the pueblos the interior is first thoroughly heated by a long continued fire within the structure. When the temperature is sufficiently high the ashes and dirt are cleaned out, the articles to be cooked inserted, and the orifices sealed. The food is often left in these heated receptacles for 12 hours or more. . . ."

[1] Mindeleff, V., 1891, p. 164.

Pit-ovens apparently similarly employed have been reported at the Grewe Site,[1] Roosevelt: 9: 6,[2] near Phoenix,[3] and at Forestdale.[4] Those from the first three sites mentioned are of a flared type, similar in shape to the flared rim bowls of the Hohokam. It should be noted that the flared pits seem to be confined to the Hohokam and that they generally have three large boulders arranged in a triangle on the bottom. The pits at Forestdale are deep and have straight sides that cut back diagonally near the bottom. One feature of the pits from the Hohokam area that differs from those at Gleeson is the size of the stones and the depth to which they are found in the pits. Those at Gleeson are predominantly large. They weigh up to seventy or eighty pounds and never more than half fill the pit. In the other sites the stones are much smaller, being mano fragments and other bits of about that size, and fill the pits to the brim.

Trischka reports that he found the pits at Pierce: 7: 1 located in the centers of large circular pit houses,[5] the rim of the pits being level with the house floors.[6] No such relationship of pits to houses is found at Gleeson, nor can any correlation as to the position of one to the other be determined (see map).

The bottoms of the pit-ovens do not show the variation in construction that Trischka describes.[7] Many of the pits have plain bottoms. In addition to the ones with no constructional features, only Types 3, 4, and 5, as shown in Fig. 13 of Trischka's report, are found at Gleeson (fig. 2).

[1] Woodward, A., 1931, Fig. 4; p. 15.
[2] Haury, E. W., 1932, pp. 57–61; Pl. XIX; Fig. 16.
[3] Schroeder, A., in prep.
[4] Haury, E. W., in prep.
[5] Trischka, C., 1933, p. 430.
[6] Caywood, Louis R., 1933, Pl. V.
[7] Trischka, C., 1933, p. 428; Fig. 13.

In Trischka's Type 3, the five holes in the oven bottom are straight sided and set in a vertical plane. Type 4 is similar to the preceding in plan, but the small holes around the circumference of the bottom all slant toward a common center located at about the level of the rim of the pit. In both types the central hole is invariably the larger and is generally olla-shaped.

To the seven types of pit-ovens listed by Trischka must be added two additional types found at Gleeson. Both are simpler in construction, one having a plain bottom, the other only one small central hole.

A further clue to the possible use of these pit-ovens might be found in the pi-gummi ovens reported by Roberts in the Zuñi area of New Mexico[1] and in the large pit-ovens employed even today by the Hopi of northern Arizona, the simplest form of which, as noted by Mindeleff,[2] is a mere mud-lined depression commonly placed some little distance from the house. However, these ovens generally have a flue leading obliquely to the surface—a feature that is absent at Gleeson.

All of the pit-ovens found are dug into the soil, except two which penetrate through the walls of an abandoned house, and thus are built partly in rubbish. The native soil has a high clay content and, when dry, is as adamant as rock. This was demonstrated in digging through some of it in making the photographic cross-section of Pit-oven 12 (pl. VI). The soil has a rubbery consistency that makes its removal difficult even with a pick and shovel, let alone a primitive wooden or stone digging implement. It is believed that water was used to soften and loosen the clayey soil when digging the pits, then the wet clay was daubed over the walls and bottoms of the excavations, as evidenced by numerous finger imprints.

[1] Roberts, F. H. H., Jr., 1932, pp. 44–45.
[2] Mindeleff, V., 1891, p. 163.

In four instances at Gleeson, abandoned pit-ovens had been used as places of interment for the dead, in only one of which had the stones been removed before the body was deposited. The skeletal remains are found so badly deteriorated that no data can be obtained as to sex. Of the burial in Pit 10, only part of the mandible and minute fragments of other bones remain. Trischka reported two burials in pit-ovens from Pearce: 7: 1,[1] and Roberts reported one in a pi-gummi oven in the Village of the Great Kivas.[2]

DISPOSAL OF THE DEAD

Of a total of one hundred and eleven burials only nine were cremations, a percentage of 91.892 for inhumations as against 8.108. The predominant custom of interment instead of cremation in a community as strongly Hohokam as the Gleeson village is difficult to explain.

Cremations are of both the pit and urn types; five of the former and four of the latter. The pit cremations have no ceramic burial accompaniments, though in one, two calcined shells perforated for stringing were recovered. The bones of the urn cremations had been placed in bowls or ollas, or under inverted bowls. Cremation 4 is probably of more than one individual since the calcined bones are both inside an olla and under an inverted bowl.

The inhumations are not found consistent as to orientation. In more than half, the head is to the west, but among the rest all points of the compass are represented. All inhumations are flexed to a greater or less degree. Some of the bodies, though these are exceptions, had been tightly folded to occupy as small a space as possible. In

[1] Trishka, C., 1933, p. 420, 427.
[2] Roberts, F. H. H., Jr., 1932, p. 45.

most cases the body had been placed on its back in a shallow pit dug into the hardpan. The arms are along the sides, or folded across the abdomen. The legs are loosely flexed with the knees upright. The head is in a nearly vertical plane, with the chin resting on the upper part of the chest. In other burials the skeletons are found on their sides in a flexed position, all of the inhumations in pit-ovens being of this class. The back was placed near or against the wall of the pit and the body was flexed and curved to conform to the rounded sides. One double adult inhumation (pl. VII) and a possible second one, although the latter may have been two closely positioned adjacent burials, were found. One adult female had been buried face down with the lower legs folded back so that the heels rested on the pelvis.

The skeletal material is almost without exception in extremely poor condition and there is not one complete skeleton among the one hundred and two inhumations. Some have so thoroughly disintegrated that the only remains are the teeth and small fragments of bone. Some fairly large fragments were exceedingly brittle and disintegrated upon exposure to the air and the sun. For this reason data are lacking on the age and sex of most of the burials. Six skulls and a few long bones represent the total recovered for anthropometric examination.

The poor condition of the skeletal material may be accounted for by the shallowness of the burials and the consequent wetting following the hard summer rains, or it may be the result of the action of some chemical agent in the soil. The articular surfaces of all bones appear to have suffered most destruction. Almost without exception, though the shaft is found in a fair condition, the epiphyseal areas have disintegrated.

One badly deteriorated skull appears to have been covered with a red pigment on the frontal region.

Forty-seven of the one hundred and two inhumations, or 46.1 percent, had some form of burial accompaniment. The number of these vary from one small turquoise bead, which had apparently been fastened to the upper arm in an adult burial, to a necklace of turquoise, shell and stone beads, eleven shell bracelets and five pieces of pottery in that of a child.

A few of the bowls and ollas that had been used as burial offerings are intact or had been cracked by the pressure of the earth above them. Most, however, appear to have been ceremonially "killed" at the time of interment by being broken, and the sherds placed around the side of, or spread over the body. Occasionally only half of a bowl or olla had been placed with the body. There is no regularity in the positioning of the burial offerings.

The burials are not confined to specific areas but are scattered between the houses, a few of them located just outside the pits in which the dwellings had been built. There are only two cases of sub-floor burials, both of which had apparently been made subsequent to the abandonment of the houses in which they occurred. In one of these the bottom of the burial pit is only six inches below the level of the floor and, in the other, the entrance ramp had been disturbed in digging the pit for the body. There are two burials directly on the floors of two houses and five burials in the fills of abandoned houses.

Rodents have added to the general confusion in which the skeletal remains are found. In a few cases their activities have so mixed the bones that even the orientation of the body is difficult or impossible to determine. Grass and tree roots have also contributed to the confusion, it

not being uncommon to find these growing through long bones and skull apertures.

A few of the inhumations had been covered with large rocks. This was not in any apparent attempt to construct a cairn, as the stones show no evidence of having been laid in any sort of masonry. They had merely been placed around and over the body in haphazard arrangement, or three or four large rocks had been placed on top of tightly flexed legs.

STONE ARTIFACTS

AXES: (PL. XVII)

All of the stone axes from Gleeson are of the three-quarter groove type attributed to the Hohokam culture. Three of them have the additional longitudinal groove along the bottom side of the long axis, a characteristic of the Dragoon Red-on-Brown sites.[1] Only five of the specimens are complete, including two with the longitudinal groove (*b, c*). Lengths vary from three and five-eighths to five inches. Most of the axes are quite full bodied with short bits, giving them a stubby appearance, and not one is well polished. One specimen of quartzite (*a*) that is not polished at all has an exceptionally short bit for the size of its head, presumably the result of a new edge having been pecked onto a broken axe, or of numerous resharpenings. One small axe has a full groove, but this appears to be a later extension of a three-quarter groove as the pecking which completes it is decidedly shallow and occurs on the bottom of the blade. All of the axes are of diorite with the exception of the short bitted one noted above. A hammerstone made from a broken axe also is of quartzite. Mention might be made of an axe blank which was picked

[1] Fulton, W. S., 1934a, p. 22; 1938, pp. 16–17.

up on the surface of a small contemporaneous site about a mile and a half south of Gleeson. The blank is a large piece of diorite with pecking marks over its entire surface. Though the axe form is evident, the groove had not yet been started.

PALETTES: (PL. XVIII)

Six complete and two fragmentary paint palettes were found. Of these, six have some form of decoration and two are of the unadorned so-called proto-palette type. Of the latter, one is made of tufa and is roughly finished with a small area in the center that shows considerable wear and smoothing, its edges being roughly ground into shape. The other, made from trachyte, is carefully smoothed on the top surface and the reverse partly so. Although this palette is quite asymetrical, the edges are carefully smoothed.

The largest and best of the palettes (*e*), made of mica schist, is of the late Colonial Hohokam type. Its raised border has an incised design of a double series of hatched triangles with negative zig-zags between them. A curvilinear scroll occurs in each corner. The edges have no medial grooves or notching. The mixing area is recessed and well smoothed. This specimen measures eight by five and one-half inches.

A smaller specimen (*b*), of similar type and material, shows what are thought to be traces of paint on the mixing surface. Though the piece is badly cracked and flaked due to fire, it was not found with a cremation as were many of the Hohokam palettes that are in comparable condition. The mixing surface is not recessed but merely outlined by a groove. The border is partially covered with a crude incised design.

A third example of the above type (*a*) demonstrates rather well some aborigine's ingenuity. The palette was originally longer but had been broken. Instead of discarding the presumably larger of the pieces, the owner smoothed off the rough fractured edge, scratched another border line along it, and continued to use a smaller, but none the less serviceable, palette. That the specimen had had considerable use before breaking is shown by the large amount of wear on its mixing surface. A groove outlines this surface and there is a crude incised design on the border. This palette also is of mica schist.

A minature specimen (*c*), measuring one and three-quarters by two and one-eighth inches and made of fine grained sandstone, is the only specimen of its class with a medial groove and notches. These are present only on two edges of the palette. The mixing surface is outlined by an incised line.

A fragment of another small palette (*d*) of fine grained sandstone, that measures only one and eleven-sixteenths inches in width, has notches on one end. The mixing surface, which is not outlined in any way, has had considerable wear, as evidenced by the degree of depression in the center of the palette.

STONE COMBS: (PL. XIX)

Five complete and three fragmentary stone combs were found during the course of the excavations, two of sandstone, one of quartzite, and five of a reddish shale.

These artifacts are reported from a site on the east side of the Mule Mountains south of Gleeson,[1] and they also occur at the Hodges site near Tucson.[2] The State Mu-

[1] Trischka, C., 1933, p. 424; Fig. 3.

[2] Kelly, Isabel, in prep.

seum at the University of Arizona has one that came from somewhere "north of the Gila River." The use to which these articles were put is still subject to much speculation. Unfortunately none of the combs from Gleeson was in any association that would give a clue to its original use. Various people who have seen these specimens suggest that they might have been used for hair dressing, for combing out fibres, for beating down the weft in weaving, or as musical rasps. Another possibility suggested is that the combs were hafted on long sticks and employed as saws for gathering fruit such as that of the giant cactus. This latter, however, hardly seems to explain their presence in such a region as the Dragoon Mountains where this plant is never encountered; nor does the condition of the teeth, which evidence but little wear, seem to warrant this conclusion. This is especially true of one (*a*) on which the tines extend around onto the end of the implement.

The teeth vary from one-eighth to one-quarter inch in length and number from four to five to an inch. The short depth of the serrations and their comparatively wide spacing would seem to preclude any possibility of their use either for combing hair or fibres. Thus, for the present, and until found in association presenting some clue as to their actual use, they must be listed as problematical objects.

STONE PIPE: (PL. XX, *g*)

The use of pipes is definitely a Mogollon trait,[1] and as only one specimen and no fragments of others were found, it can presumably be considered an intrusive, though, of course, it is entirely possible that the concept was intrusive and the pipe itself actually made at Gleeson. The bowl is quite large with only a small socket at the opposite end for

[1] Haury, E. W., 1936b, pp. 106–7.

a mouth piece. The outside of the pipe is roughly square, *i.e.*, it has flattened sides with rounded corners.

SMALL STONE BOWLS OR MORTARS: (PL. XX)

Two complete and six fragments of small stone bowls or mortars were recovered, all but one showing some form of incised decoration.

The largest and most elaborately decorated (*e*) is made of sandstone and measures two and one-eighth inches in height by two and one-half inches in width. There are five lizard figures in the design, of which four are incised and the fifth in low relief. An incised line encircles the bowl just below the rim. A set of double chevrons, a single chevron, and three fairly large drilled dots complete the decoration.

The other complete specimen (*d*) is of tufa and has a series of chevrons and dots forming a simple yet effective design. It measures two and one-half inches in diameter by one and one-half inches in height.

The broken fragments of the stone bowls are all of tufa. All but one has some type of incised design, but only one carries any cross-hatching.

CEREMONIAL POINT: (PL. XXI, *l*)

An arrow point that was carefully ground from calcite was found in the rubbish during excavation. The stone is too soft and friable for it to have been put to any utilitarian purpose. The chipping is represented by incised notches, exactly the same technique being employed as was used to form the teeth of the stone combs. All surfaces have been carefully ground into shape and polished. The specimen measures two and three-eighths inches in length by one and one-eighth inches in width.

HUMAN FIGURINES

Two broken human figurines of tufa were found, one being of a much coarser material than the other. In shape, manner of depicting body features and in size they are indistinguishable from the figurines modeled in clay. The heads of both of the specimens are missing and, though one is female, the other can not be identified as to sex.

ANIMAL EFFIGIES

Four of these were found at Gleeson, of which three are so well made as to reflect creditably upon the artistic ability of the prehistoric inhabitants of the village.

An effigy, possibly of a javelina (pl. XX, *b*), is of fine-grained sandstone. Unfortunately, the head of the figurine was fractured by a shovel stroke and, due to the soft nature of the rock, crumbled to powder. The rest of the body is carefully shaped although no attempt was made to maintain accurate anatomic proportions.

Two small stone zoomorphs, both of which are drilled for suspension, were found with Burial 70. The first of these (pl. XXI, *i*) is of steatite and represents some small quadruped, possibly a skunk. The workmanship is excellent and the entire figure is polished and has a patina that shows much handling. The second (pl. XXI, *g*) is made of sandstone and is a fairly accurate reproduction of a gopher.

A fourth effigy (XX, *f*) is in tufa and shows a series of parallel lines transversing the back, a crude attempt to represent a tortoise or, possibly, a horned toad. The head and legs are missing.

PLUMMETS: (PL. XX, *c*)

Two plummet-shaped objects of porous lava were found. Their lengths are two and two and one-half inches.

PENDANTS: (PL. XXI)

Eight stone pendants of varying degrees of workmanship were recovered. With the exception of one of slate that is chipped, they are all formed by grinding. Two (*h*) are made of hübnerite or ferberite, a tungsten ore, and have the appearance of dark, burnished copper. They were found in conjunction with, and were evidently part of, the same necklace as the two small stone animal effigies mentioned above. The edges of two of the pendants (*e*, *m*), one of which is broken, are notched.

BEADS: (PL. XXI)

The majority of the disc beads from Gleeson are made of schist and are small in size. A few of them range from three-sixteenths to one quarter of an inch in diameter. One (*f*) that is carefully worked and polished is shaped like a pulley wheel with a deep, flat groove running around its edge. One fairly large bead (*a*) is of fluorite with a greenish cast.

FOUR POINTED STONE: (PL. XX, *a*)

Half of a four pointed stone made of green steatite and of excellent workmanship was found. It is almost perfectly symmetrical and is polished to a brilliant sheen. Similar stones have been reported from this area by collectors. The Amerind Foundation Museum has three others, one having come from Sonora, Mexico, and one from the Dragoon Mountains a few miles away. Information as to the provenience of the third is lacking.

METATES

Only three complete metates are to be reported although fragments are numerous. These fragments, however,

present but few clues as to the prevailing type used, as almost all had been badly fractured by fire in pit-ovens. Two of the metates are of the open-end and one is of the closed-end, trough type. Of the former, one has low ridges on each side of the trough and the grinding surface is almost flat; the ridges of the other are much higher and its grinding surface deeply concave. This specimen had possibly been "killed." The closed end type is represented by a fairly large rock in which deeply concave grinding surfaces occur on two adjacent faces. Both troughs show about the same amount of wear. Evidence from fragments points to the presence of metates with unrestricted grinding surfaces. All are made of granite.

MORTARS

Mortars are present but not common. One complete specimen and two fragments were found. These are also made of granite.

MANOS

Manos are both round and rectangular, the types occurring in almost equal proportion. Round specimens are shaped by pecking, with one or both surfaces showing use. Rectangular manos are of the plano-convex type, also shaped by pecking, but with only one surface showing use. One is of diabase, the rest of rhyolite and quartzite.

PROJECTILE AND DRILL POINTS: (PL. XXIII)

Nearly a hundred projectile points, both arrows and darts, were recovered. They are made of obsidian, chert, jasperite, quartzite, silicified schist and silicified slate. In form they are serrated, triangular, stemmed and laterally

notched, with the frequency of each type in that order. The chipping on the obsidian points is almost uniformly good but on the larger points the workmanship is mediocre.

TURQUOISE: (PL. XXII)

Turquoise is quite abundant. It is still mined commercially in the neighboring hills, and what is believed may have been an aboriginal quarry (pl. IV) was found high on a precipitous slope about three miles in an air line from the ruin. The stone from this area is of a pale blue color due to its low copper content and the majority of the turquoise pieces from the site are of this shade, making certain pieces that are presumably intrusive stand out because of their brilliance. A cache of unworked and partially worked pieces was found on the floor of Pit-house 25. Turquoise beads range in size from one-eighth to one-half inch in diameter and from one-sixteenth to one-quarter of an inch in thickness. One tubular bead was found that measures one-quarter of an inch in diameter and nine-sixteenths of an inch in length. Most of the pendants are roughly oval in shape, but square and round ones are present. One round pendant has a large hole drilled through the center which may, at one time, have contained some sort of inlay. One broken pendant is carved in an effigy of a horned toad. Several pieces, ground into circular or rectangular shape, are not drilled for suspension. They are too large to have been employed in mosaics and their use is unknown. Other very small pieces are carefully ground and polished and were undoubtedly used in overlays, as the edges are beveled to permit close fitting. Whether they were mounted on shell or wood is not known, as no complete specimens were found.

SHELL MATERIAL

(Pls. XXIV–XXV)

Shell material is abundant both in complete and fragmentary pieces. The source of some fragments, too small for conchological identification, are not included in the following list, which is arranged to show the approximate frequency of the material recovered:

MARINE SHELLS

Olivella tergina, Duclos
Glycimeris maculata, Broderip
Cardium elatum, Sowerby
Pecten circularis, Sowerby
Pecten cataractes, Dall
Vermicularia tripsycha, Pilsbry & Lowe
Pteria, sp. indet.
Nassarius iodes, Dall
Neritina picta, Sowerby
Acmaea fascicularis, Menke
Cerithium ocellatum, Brugiere
Conus regularis, Sowerby

FRESH WATER SHELLS

Anodonta dejecta, Lea

Few unworked shells appear, evidence, perhaps, that as fast as the shell came to the site, either by barter or through expedition to their indigenous regions, it was converted into ornaments or utilitarian implements such as needles.

A cache of thirty-four fragments of shell bracelets, some of which had been reworked into needles, was found with Burial 73. Two of the fragments (*i*) are both pointed and drilled, one (*h*) is pointed and partially drilled, and sixteen (*j*) are pointed but not drilled. None of the other

pieces shows secondary working. Lengths vary from one and a quarter to two and five-eighths inches.

Bracelets made from *Glycimeris* vary in diameter from sizes so small as to fit only the arm of a child to those large enough for an adult. In thickness they range from very thin and fragile pieces ground down on both sides to the massive form so characteristic of the later phases of the Hohokam. There is, however, but one example of the latter (*c*). The perforation in most of the bracelets is through the umbo. Though there are no complete carved specimens, such fragments as do exist appear to have been decorated in the serpent motif common to the Gila basin. Fragments of shell bracelets were numerous in the rubbish.

Only one complete shell ring (*l*) was found, and fragments were scarce. One of the latter has a carefully executed incised geometric design, and another, a series of notches.

By far the most abundant beads are those made of *Olivella* shells (*d*). In some cases, only the tips of the spires and the bases are ground off to permit stringing while in others the shell is reduced to about one-half of its original size by grinding. A bracelet of *Nassarius iodes* (*e*) was found with Burial 10. The shells have holes ground through the sides for stringing. All of the shell disc beads are small in size (*g*) and, as most of them are in poor condition, it is possible that many more have disintegrated entirely. Bi-lobed beads (*f*) are also present, although not in any great quantity, and they are all less than one-fourth of an inch in length.

Whole shell pendants are made of *Pecten circularis* and *Pecten cataractes* with suspension holes drilled or ground near the umbo.

Cut shell pendants are made of *Pecten, Pteria* and *Cardium.*

One broken bird-and-serpent piece (*m*) is made from *Cardium.*

Shell carvings, all from *Glycimeris,* include two pelicans (*n, o*), a fox or coyote (*k*) carved in the full round, and fragments of frogs.

With the single exception of the fresh-water *Anodonta dejecta,* all the species represented come from the Gulf of California.

BONE MATERIAL

(Pl. XXVI)

Bone material is similar to that of the late Colonial and early Sedentary periods of the Hohokam. Bone awls are not numerous, only thirty-four complete and fragmentary pieces having been recovered. None has the lateral notch that is characteristic of Mogollon culture,[1] nor do any present the elaborately carved effigy heads reported at Sacaton: 9: 4[2] and Snaketown.[3] The butt ends of two broken awls, fashioned from split deer metapoidals, disclose the only attempts at elaboration. One carries a simple decoration of notches along the sides and around the head of the implement, the other, with no decoration on the head, has incised cross-hatching on the shaft. The greatest length of any of the awls is ten and one-eighths inches. The majority of them appear to be made from bone fragments, and the complete ones show that the butt end is smoothed to fit comfortably in the hand. Two had been broken, their fractured ends having been reworked into semi-spatulate tools. Three awls are made from deer ulnae.

One complete (*j*) and one fragmentary (*i*) tube with incised designs were found. The complete specimen has a

[1] Haury, E. W., 1936b, pp. 110–11.
[2] Gladwin, W. & H. S., 1935, Pl. XLII.
[3] Haury, E. W., 1937, p. 154.

decoration of incised chevrons, and the fragment, a series of parallel, diagonal, incised lines that probably constituted a spiral motif on the whole tube.

Another (*a*) has a painted design consisting of two thin zig-zag lines encircling the tube near one end. The paint, of a purplish cast, is badly faded and difficult to distinguish.

Several undecorated tubes and a number of hafts (*b, c, d*) used, probably, in conjunction with awls were recovered. A number of bones which had split while a ring was being sectioned from one end were also found. Five such rings (*e, f, g*) are in broken condition. One (*f*), which shows considerable wear and which is most carefully made, is decorated with an incised groove encircling the middle of the band and short diagonal incised lines crossing it. Another has notches in both edges and is carefully polished.

One small bird-bone tube or bead measuring one and one-eighth inches in length and three-sixteenths inches in diameter was recovered.

A small bone talisman (*h*) was found with Burial 20. It measures eleven-sixteenths inches in length and seven-sixteenths inches in width. All surfaces are carefully ground and polished. Two similar pieces of bone were recovered from the Texas Canyon site.

One large and three small pieces of antler, presumably used as flaking tools, were found. The ends show considerable wear and one is ground to a chisel-like blade or edge. edge.

POTTERY

DECORATED WARE

This is of the Dragoon Red-on-Brown type that has been described from the Texas Canyon[1] and Pearce: 7: 1[2] sites.

[1] Fulton, W. S., 1934a, b; 1938.
[2] Trischka, C., 1933.

POTTERY BOWL.

DIAM. 13$\frac{7}{8}$ IN.

It resembles the Hohokam in design layouts, design motifs, some vessel shapes and certain other aspects of the finish.[1] It likewise resembles the Mogollon decorated wares in color, some aspects of the finish and in design layout. Both paddle-and-anvil and coiling methods were used in its manufacture. Dragoon pottery admittedly is hybrid, but since most of the influence appears to have come from the west, it may be considered as a specialized Hohokam type.

Paste. The tempering material appears to be sand with white angular pieces of quartz and feldspar predominating. Small pieces of iron pyrites are also present, but it would seem that they were present in the indigenous sand as no vessel shows them in great profusion. The size of the particles varies considerably but none of them is large. The fracture lines are irregular with ragged edges. The clay is a light brick red. Over-fired pieces shade off to a dark grey.

Interior Finish. The interiors of bowls are not always slipped, but all were more or less smoothed or polished before decoration. In some cases the polishing seems to have been done with the hand while in others the marks of a tool are present. The polishing formed a float of the smaller particles of clay making the bowl interiors smooth although pieces of the tempering material show through. Occasional pieces had been scraped and then slipped, the striations caused by the scraping showing through the slip.

Exterior Finish. Bowl exteriors were commonly left unfinished but some few pieces are hand polished. A few others had a thin fugitive red wash. Firing clouds are numerous. Quite often excess paint from fingers or paint brushes appears to have been wiped off on bowl exteriors.

Bowls with exterior decoration are polished and occa-

[1] Gladwin, W. & H. S., 1935, p. 231.

sionally slipped. In most cases the decoration does not cover the entire exterior of the vessel.

Ollas are occasionally polished but not slipped. Decoration does not cover the bottom of these vessels.

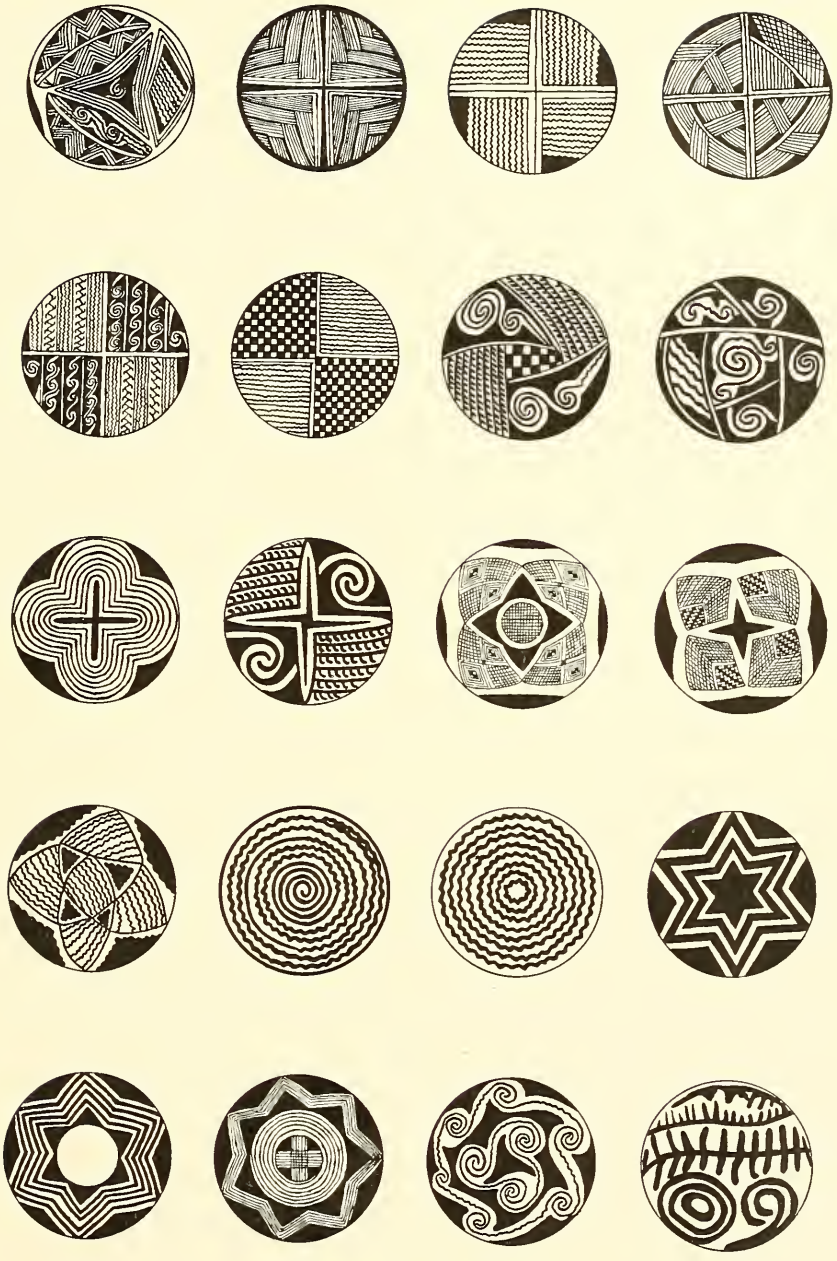
Vessel Shapes. Platters, globular and Gila-shouldered ollas, and various bowl forms, including shallow, deep hemispherical, flare-rimmed and those with incurving rims are present. Bowls with carrying handles and double bowls are known from sherds only. Diameters of bowls range from two and one half to fourteen and one-sixteenth inches. The most common type of bowl is approximately one-third of a sphere. Olla diameters range from five and one-half to eight and three-quarter inches. The average thickness of vessel walls near the rim is seven thirty-seconds of an inch for bowls and nine thirty-seconds of an inch for ollas.

Decorations. The approximate color of the decorated ware is shown in the accompanying color plates.

The polishing over the decoration, so characteristic of the Mogollon potters, is almost entirely lacking in the Dragoon area. Some pieces are polished over the entire decoration, but the majority are either not polished at all or but very lightly and apparently only in spots.

The decorative field is the entire interior surface of the bowl; or the entire exterior surface; or the interior with a band on the exterior extending from the rim about two-thirds of the way to the bottom; or a similar band of decoration on the exterior but with no interior decoration. The line work is variable as to width but the brushwork is fairly accurate. Line junctures are apt to overlap.

Decorative motifs are both curvilinear and rectilinear, the most common element used being the interlocking scroll. Hatching is both straight and wavy, the types being used either separately or together. Cross-hatching is



DESIGN STRUCTURE

diagonal as well as at right angles. Hatched chevrons are present. Small repeated elements are used alone and with other design motifs. Rim solids always have obtuse angles and, sometimes, wavy edges. Solids are also used as central stars and for filling between interlocking scrolls. Checkerwork and fringed or pendant lines, both single and double, are present although not in great proportion. Dots are sometimes placed in the squares of checkerwork patterns. Several fragments of a large Gila-shouldered olla show a series of rectangles that are numbered from one to six by dots, as is the die or domino. Concentric circles, of both the regular and wavy line types, and spirals of a combination of regular wavy lines, are used occasionally. Three, four, five and six pointed stars are present as center elements. Two small bowls have designs made up entirely of concentric, six-pointed stars.

Design Structure: (*Fig. 3*). The design structure of the decorated ware may be divided into trisected, quartered, sectioned, irregularly sectioned, off-set quartered, repeated, circling continuous, spiral, cross-banded and all-over cross-hatched layouts.

Four pointed stars are commonly used as quartering lines. They have both opposed and off-set points and are both solid and hatched. While the quartering lines that go to the rim always fall between the rim solids, the four-pointed stars usually point to the apices of the rim solids although a few of them, if continued to the rim, would fall between them. The four panels of the design around the stars are arranged in diamond-shaped framing lines. The quartered and sectioned designs are arranged in an a, a, a, a; or an a, b, a, b; or, in one case, in an a, a, a, b, order. Off-set quartered designs are arranged in an a, b, a, b, order.

RED WARE

Red ware is present but does not appear to have been held in much esteem by the potters. Only one complete vessel was found and this must serve as the basis for Dragoon Red until further specimens are recovered.

Paste. The same as in Dragoon Red-on-Brown.

Finish. A red slip was applied to both previously smoothed exteriors and interiors of bowls. The slip is lightly polished and is very fugitive.

Vessel Shapes. Bowls only. No sherds of Dragoon Red ollas have been found.

Remarks. No attempt has been made to work out the percentage of Dragoon Red from sherds. Most of the fragments are small and, since Dragoon Red-on-Brown has large solid areas of red, many of the red sherds may well be from these solid areas. However, it may be safely stated that Dragoon Red was never produced in any quantity and that it is possibly a derivation of San Francisco Red [1] found intrusive at Gleeson in small quantities.

PLAINWARE

Paste. The paste of the plainware is apt to be coarser than that of the decorated ware although the tempering material, which shows through the vessel walls, appears to be the same, *i.e.,* a heterogeneous material of both round and angular fragments. The hardness of the plainware is variable, some pieces being soft enough to crumble in the fingers while others are quite durable. Under these conditions, fracture lines obviously also vary from jagged and crumbly to straight with slightly friable edges.

Finish. The plainware vessels are unslipped and, though the surfaces are sometimes lightly tool-polished, most of

[1] Haury, E. W., 1936a, pp. 28–31.

the vessels are hand-smoothed or left rough. The interiors of ollas are carelessly scraped or left rough. Conversely, the exteriors of plainware vessels are given more treatment than those of the decorated ware. The surface tool marks are directed from the bottom of the bowl to the rim on the interiors and, on the exterior, either around the circumference or from bottom to rim. On ollas they occur parallel to the rim. Firing clouds are profuse on all exteriors.

The average thickness of plainware bowl walls near the rim, compiled from fifteen examples, is one quarter of an inch. The bottoms of all bowls are much thicker than the rest of the walls. The olla walls vary from one-quarter to five-eighths of an inch in thickness.

Bowls with carrying handles and olla lugs are known from sherds only.

The color of the plainware ranges from buff through light brick red to dark brownish black.

Paddle-and-anvil and coiling techniques are both represented. There are no examples of exposed coils or neck banding.

Vessel Shapes. Bowls constituting approximately one-third of a sphere are the most common, as in the decorated ware. Other bowl forms are deep hemispherical, straight sided, incurved rim, elongated, flat bottomed and flare sided, scoops and dippers.

Olla shapes are seed jars, globular vessels, some with short vertical necks, and modified Gila-shouldered vessels with returned rims. The sizes of the complete vessels range from two to sixteen and one-half inches in diameter. Sherds that indicate much larger ollas were found.

The number of bowls and ollas are about equal.

Remarks. The Dragoon plainware appears to have been closely related to the Gila Plain in color, finish, and method

of manufacture. Its relationship to the Alma Plain of the Mogollon area must be considered as distant, since there is no evidence of exposed coils or neck banding. This ware was undoubtedly used for culinary purposes, the larger ollas being presumably employed for the storage of water.

INTRUSIVE POTTERY

The potters in the Dragoon region did not decorate their wares as prolifically as did their western neighbors, the Hohokam. In contrast to the later phases in the Gila basin, in which more than 35 percent is decorated, that from Gleeson constitutes but 8.4 percent. Only 2.9 percent of the decorated wares are recognizable intrusives. The term " recognizable intrusives " is here used because the Dragoon Red-on-Brown series and the so-called Tucson wares are closely related and the line of demarcation between the types is so inconspicuous in many cases that it can not be determined. It is an accepted fact that the Tucson wares, through sherds readily identifiable, are intrusive to the Dragoon area; but any attempt to determine their exact percentage is bound to be erroneous and, for that reason, is not essayed.

Since no datable specimens of wood were found, cross-dating by means of intrusive pottery types is the most reliable procedure to be followed in estimating the period through which the Gleeson site was occupied. One small fragment of charred pine was submitted to the University of Arizona, but the series of twenty-seven rings was too incomplete for dendrochronological purposes.

Three regions adjacent to the Dragoon Red-on-Brown area are represented by intrusives: Mogollon-Mimbres to the east, Trincheras to the south and southwest, and Hohokam to the west. Of these, Hohokam contributes 75.87

percent of the total number of intrusive sherds and Mogollon-Mimbres accounts for 20.98 percent, of which 10.49 percent is Mogollon and 10.49 percent Mimbres. The Trincheras influence accounts for only 3.15 percent of the intrusives or 0.1 percent of all the decorated pottery, as compared with Hohokam, 2.2 percent, Mimbres, 0.3 percent, Mogollon, 0.3 percent.

POTTERY DISTRIBUTION

Sack No.	Total Sherds	Decorated	%	Intrusives	%
1/1	7579	883	10.33	30	3.397
1/2	4629	302	6.52	7	2.317
1/3	7635	584	7.64	12	2.054
2/1	7078	702	9.91	17	2.411
2/2	7069	562	7.95	11	1.957
2/4	7162	475	6.63	7	1.473
2/5	8655	612	7.07	9	1.470
3/1	7759	652	8.40	25	3.604
3/2	6971	463	6.78	13	2.807
3/3	6107	456	7.46	17	3.728
3/4	6344	385	6.07	24	6.233
4/1	6421	500	7.78	22	4.400
4/2	1944	207	10.63	6	2.898
4/3	7934	519	7.50	32	6.165
4/4	5747	465	8.09	9	1.935
5/1	800	59	7.39	3	5.084
6/1	8315	1118	13.44	19	1.699
6/2	5835	679	11.63	17	2.503
6/3	3239	239	7.38	6	2.510
	117223	9862	8.41	286	2.900

On the basis of these intrusives, and since the Hohokam sherds fall into the late Santa Cruz and early Sacaton phases, an approximate date of from 800 to 1000 A. D. for

POTTERY BOWL.
DIAM. 11 IN.

the culture represented at Gleeson can be established. Such a date is corroborated by the Mogollon-Mimbres sherds which are of San Francisco, Three Circle, and Mimbres Bold-Face origin. Some of the Mimbres sherds show details of a later Mimbres development and may record the beginning of the Classic infiltration. Sufficient work has not yet been done in the Trincheras region to use those sherds as chronological criteria.

The vast superiority in numbers of Hohokam intrusives over the combined total of all other types indicates the culture with which the Dragoon Red-on-Brown people had the most contact, one that is evident in the incorporation of Hohokam designs and vessel shapes in the Dragoon Red-on-Brown pottery.

FIGURINES AND MISCELLANEOUS ARTICLES OF CLAY

HUMAN FIGURINES: (PL. XVI)

One complete and ninety-eight fragmentary human figurines were found during the course of excavation. All of the fragments are small, the largest measuring four and one half inches in height. They somewhat resemble the figurines from the Prescott area in that all are made by a one piece method, with almost no attempt to reproduce body proportions accurately.[1] Bodies are rod-like for the most part. Heads are flattened both front and rear and are often tilted on the neck as though the figure were looking up with the head thrown back. Most of the heads have well developed chins represented. Noses are formed by pinching the clay, and in profile look like large hooked beaks. No attempt is made to show the eyes, mouth, ears,

[1] Haury, E. W., 1937, pp. 239–40.

or hair except for four painted heads on which the eyes are indicated in pigment. The only attempt to represent any article of dress is found in a head band formed of a thin strip of clay added to one of the heads (*g*). Arms are made by adding small lumps of clay to the torso or by pinching up part of the clay that forms the body. In no case are they more than mere suggestions of appendages. The legs are never in correct proportion and are made by dividing the lower end of the body into two short stumps. What appears to have been an attempt to make fairly accurate representations of feet is found on one figure but, unfortunately, the front portion of each foot had broken off. The heels are shown as short projections and the bottoms of the feet seem to be flat, probably allowing the figure to stand by itself. Two fragments of bodies have a decoration of punched dots on both the front and rear. On one specimen (*h*) there may be an attempt to show an article of clothing since the dots are arranged more or less in the outline of a vest. On the other they probably represent some form of tattooing or body painting.

Most of the figurines are definitely female with the breasts indicated by small lumps of clay. One is of a hunch-backed female (*f*) and two depict pregnancy (*i*). One figurine (*k*) may definitely be classed as male, the genitalia being crudely modeled from small lumps of clay. Other figurines are in all probability male since there are no breasts represented.

Some of the figurines from Gleeson, both animal and human, had been modeled on a small twig or large grass stem, as evidenced by the small hole running through the long axes of the bodies, a feature especially noticeable in the broken fragments of torsos. The real purpose of this rod is not known but it may have served to stiffen the body during the modeling or as a handle while the clay was still

wet and soft. Whether the rods were withdrawn prior to firing or whether they were allowed to burn out in the process cannot be determined.

One painted figurine (*e*) is covered on the facial side with a thick coating of dark red paint that does not extend around on the rear except for one smudge. That this specimen was the handle on a small scoop or dipper is possible as a flare on the broken under edge may have been part of the original rim.

Another painted example (*b*) shows the entire face, with the exception of the eyes, covered with pigment, thus reproducing eyes in negative. A line of paint extends from the forehead down the ridge of the nose and joins the paint on the lower face. From this line a horizontal line extends into the unpainted portion of the eyes forming the iris. There are no traces of paint on what remained of the body.

A third painted specimen (*c*) is similar to that just described in that the entire face, with the exception of the eyes, is covered with pigment, but the horizontal line denoting the iris is absent. A line of paint encircles the neck. The rest of the body is missing.

Still another (*d*) had been over-fired, the clay being nearly black in color. The eyes are shown properly located as two painted circles. A series of irregular lines on the lower face probably represent facial tattooing or painting. The body of this figurine, too, is missing.

A fifth specimen (*a*) has the pigment applied on the face in exactly the same way as on *c*. A heavy line of paint extends from the head down either side of the neck, along the shoulders, over the stumps representing the arms, and down the sides of the flattened body. There are a series of parallel lines running vertically down the front of the body.

The paint on *e* has almost disappeared but a few indistinct traces may be discerned on the face. A faint line circles the neck and forms a v in front. There are other traces of paint on the sides and front of the body. This is the only specimen on which any attempt to decorate the back with paint is noted, there being a looped line between the shoulders.

On a fragment of a female figure, the head, neck, and lower body are missing, leaving only the shoulders, the breasts and part of the torso. A heavy line of paint extends down the shoulders, over the arms and down the sides of the flattened body. Lines of paint over each breast are also present.

One of the female figurines (*j*) is worthy of special notice. It is the one previously mentioned on which an attempt had been made realistically to portray feet. The figure measures four and one-eighth inches in height and is two inches wide. It is quite evident that the modeler endeavored to depict steatopygy. Two large pieces of clay that shelve out abruptly had been added to the gluteal region to represent enlarged buttocks. Someone either was decidedly factual or had a sense of humor.

ANIMAL FIGURINES

Twenty-two animal figurines or effigies were found, eighteen of which are of clay and four of stone. Only two are complete and two are painted. One of the painted specimens appears to be the head of a doe, the body of which is missing. A v of red paint is shown down the front of the ears and comes to a rounded point on the forehead. On each side of the neck are two slanting stripes, the anterior one of which continues out to the point of the chin. The eyes and mouth are suggested by short lines

pressed into the clay while it was still moist. The other painted effigy is of a small unidentified animal. Three faint diagonal lines of red paint are on either side of the body.

Strangely enough, more effort was made to show the facial features on the animal effigies than was attempted on the human ones. Punched holes for nostrils are present on five and mouths are shown on seven by lines pressed into the wet clay. One small fragment that is apparently a snake's head has two punched holes in the top to represent eyes.

The exterior finish and coloration of the animal figurines is the same as those of the human forms.

MISCELLANEOUS CLAY ARTICLES

Discs cut or ground from potsherds are plentiful and vary greatly in size. Some of them are chipped into roughly circular shapes; occasionally they are perforated at the center and, as such, may have been used as spindle whorls; still others are partially drilled at their centers. The use to which these latter were put is unknown although they may have been held in the hand while the butt end of a drill rotated in the socket formed by the partly drilled hole.

Other potsherds of different forms are ground into shape. Their use is problematical although one with notched edges may possibly have been an ornament.

Two clay objects of the same approximate length and width were found. One is almost round in cross-section, the other is oval. Their use is unknown although they might be classed as phallic symbols.

One very small miniature olla or prayer stick holder was found.

A small tablet of clay that might be a paint palette was recovered.

One small object of clay is shaped like a jar stopper although it does not appear to have been used as such. It might possibly be a pottery anvil.

A few vessel legs or handles with faintly incised and punctate decorations were found.

DISCUSSION

Carr Tuthill

The results of the excavations at Gleeson, to a large degree, corroborate the results of the work at Texas Canyon[1] and would seem to indicate that the hypothesis regarding the archeology of southeastern Arizona, especially in and around the Sulphur Springs Valley, must be revised. This particular area is one in which practically no protracted work has been done, most of our present knowledge of it deriving from surface surveys. These perhaps, unfortunately, gave a false approach to the actual culture picture.

Surveys conducted by Gila Pueblo led them to believe the basic culture in this region at about 800–1200 A. D. to be Mogollon, with a fairly strong Hohokam influence.[2] The results of the work of The Amerind Foundation demonstrate rather conclusively that this basic culture is Hohokam with little more than a veneer of Mogollon influence. The only alternative consideration, since we do not adhere to the basic Mogollon theory, would be that here we have a Dragoon Red-on-Brown culture that has amalgamated a much stronger Hohokam phase with Mogollon into a fundamental pattern of its own. Because there is as yet no trace of such basic pattern, we revert to the belief that this is a phase of the Hohokam—more specifically, a Dragoon-influenced phase of the Hohokam.

The two most important traits that constitute the main deviation from the Hohokam farther to the west are (1), the presence of such a large percentage of inhumations,

[1] Fulton, W. S., 1934a, b, 1938.

[2] Gladwin, W. & H. S., 1935, pp. 227, 230–31, 255, 274; Gladwin, H. S., 1937 (II), p. 98.

and (2), the distinctive pottery which, to the author, appears to be a blending of Mogollon and Hohokam types, but with more influence from the west than the east. The balance of the material culture traits fits perfectly into the known late Colonial and early Sedentary periods of the Hohokam, as shown in the following tabulation:

HOUSES

All of the houses are shallow. The predominant type is the Hohokam "house in a pit." Houses with plastered side walls are present. Only one house has the Mogollon long and narrow entrance and this is the only stepped entrance. Most of the houses are small. Four instances of a local deviation from the Hohokam type are found in houses that have a depressed area around the fire pit. Hearths are off-center.

ECONOMY

Economy was largely agricultural, but hunting is evidenced. Food bones are rare in the rubbish and fill of the houses. Arable land was located near the site. The only evidence of vegetable food is charred corn kernels.

PIT-OVENS

Undercut "olla shaped" pit-ovens that are peculiar to this locality are found in varying sizes. The side walls are coated with clay and burned to a brick red. Fire fractured rocks are found in nearly every pit. Many of the pits demonstrate a peculiar arrangement of holes in the bottom.

DISPOSAL OF THE DEAD

Ninety-two percent of disposal of the dead was by inhumation and eight percent by cremation. Burials are not confined to any specific locality but are scattered among the houses. Sub-floor inhumations are not common. Occasionally burials are found in the fill of abandoned pit-ovens, the

bodies all flexed. Forty-six percent of the inhumations had mortuary offerings. Cremations were of both urn and pit type, with the latter usually barren of accompaniments.

STONE

The three-quarter groove axe is present, in many cases with a longitudinal groove along the bottom. Paint palettes of the Hohokam type and carved and incised dishes and mortars are found. One example has both incising and carving in bas-relief. Small animal effigies are carved in the full round. Rings, pendants, and disc beads are present. Hoes or scrapers are of both triangular and rectangular shapes. Projectile points are of the tanged, serrated edge, and triangular types. Manos are both round and rectangular. Metates are closed at both ends, closed at one end, and open at both ends. Large mortars and pestles are present. Combs of unknown use and peculiar to this locality are found. One large pipe was uncovered.

SHELL

Carving, both shallow and in the full round, and incising are represented in shell decoration.

BONE

Bone material is relatively scarce. Awls are from deer metapodials and ulnae as well as from splinters. None of the awls is notched. Plain and incised bone rings are present. Plain, incised, and painted bone tubes, and horn flaking-tools are found.

POTTERY

Both coiled and paddle-and-anvil techniques were employed. Oxidizing environment produced a red-on-brown decorated ware. Interiors of decorated bowls are occasionally slipped and often polished. Exteriors, except in cases of exterior decoration, are unslipped and unpolished. Smudges of paint are often found on the exteriors of bowls

as though the potter had wiped spilled paint on these surfaces. Firing clouds are common to nearly every piece. Curvilinear designs are prevalent. Gila-shoulder and flare-rimmed bowls, and platters are present. Both interior and exterior decoration is on bowls. Red ware is scarce.

Plain ware is of the Hohokam type. Vessel walls tend to be rather thick. Color varies from tile red to a dark brownish black. Some bowls are polished on the interior. The majority of both bowls and ollas are smoothed but not polished. Firing clouds are common.

FIGURINES

Figurines are abundant, both male and female human forms being present, the latter predominating. Some are painted. Animal figurines are not as well made, although more attempt to show facial features than on the human ones is evident.

The difficulty in explaining the almost total discontinuance of crematory disposal of the dead in favor of inhumation by a Hohokam people to whom the latter custom had been foreign since their earliest recorded phase, constitutes the weakest point in the evidence that the culture manifest at Gleeson is fundamentally Hohokam.

The early settlers in the Dragoon Red-on-Brown region may have been of Hohokam stock. And since they were separated by a not inconsiderable geographical distance from the focus of the Hohokam culture in the Gila basin, their own culture was probably somewhat modified from the parent one. Upon coming into contact with Mogollon people to the east they may have borrowed some ideas from them. Inhumations outnumbered, but did not entirely eliminate, cremations, and pottery was modified into a cross between the polished wares of the east and those of unpolished finish of the west.[1] The result is a decorated

[1] Haury, E. W., 1937, p. 178.

pottery that was occasionally slipped and often polished on the interior but left rough and unfinished on the outer surfaces. Polishing over the decoration, so characteristic of the Mogollon, was neglected by the Dragoon potters and tended to disappear entirely. A superficial resemblance to the Mogollon wares remains in the color of the Dragoon Red-on-Brown, but vessel shapes and methods of decoration are Hohokam. Thus, if the original stock in this region was Hohokam, and since, even after alteration through contact with the Mogollon, the culture remained almost entirely Hohokam, then Dragoon Red-on-Brown should be regarded as a phase of the Hohokam.

On the other hand, the early stock in this region may have been of Mogollon origin, which, having come into contact with Hohokam people, was assimilated into that culture. There are two reasons why this could have been possible and is probable. It is the belief of most Southwestern archeologists that the Hohokam and the Mogollon cultures are the offshoots of some earlier common parent. Of the two cultures, Hohokam was by far the more dominant. For example, witness the manner in which Hohokam ideas gave impetus to the Mimbreños, even though the Mimbres culture was an outgrowth of Mogollon and Anasazi traits.

In the process of assimilation the early Dragoon people held to certain of their original traits, *i.e.*, pottery that is sometimes polished, and disposal of the dead by inhumation. However, if the early inhabitants were of Mogollon extraction, it seems strange that they should so completely abandon the San Francisco Red type of polished pottery. Polished red ware is conspicuous by its absence at the Gleeson site and the few sherds found are presumably intrusive. On the other hand, San Francisco Red accounted for 20 percent of the total pottery at Mogol-

lon: 1: 15, and 11 percent of the total pottery from the Harris site.[1]

In both of these sites it is the predominating type of decorated ware. At Cameron Creek, Bradfield's Early Red, which has been identified as San Francisco Red, ranged from 43 percent in the lowest stratum to 6.9 percent in the highest.[2] This fact alone is a strong argument in favor of the early inhabitants being of Hohokam extraction. But even if they had been Mogollon originally, the culture revealed by the excavations at Gleeson and Texas Canyon[3] should be classed as a phase of the Hohokam, since that culture accounts for the great majority of the traits present.

It is the belief of the author that the main current of cultural drift through the southeastern part of Arizona was, prior to 900 A. D., from west to east. It is an established fact that even strong currents have a backwash that varies in intensity. It was this backwash along the current of cultural drift, the author believes, that may be responsible for the presence of inhumations in the Dragoon area and a pottery type that resembles both Hohokam and Mogollon and yet is neither. This backwash continued on to the west from the Dragoon area and became responsible for the Tucson ceramics of a comparable period, which appear to be closely associated with the Dragoon series.[4] It is natural to expect a chronological lag in the various traits as the distance from the focus increases and such is the case as revealed by excavation. There appears to have been a one hundred to a one hundred and fifty year lag from the Gila basin focus to the Dragoon area and about another one hundred or one hundred and fifty years from

[1] Haury, E. W., 1936b, pp. 26, 66.
[2] Bradfield, W., 1931, p. 29.
[3] Fulton, W. S., 1934a, b; 1938.
[4] Gladwin, H. S., 1937 (II), p. 98.

the Dragoon area to the Mimbres region. Some of the traits seem to have moved eastward at a much faster rate than others. For example, stone carving was present in the Hohokam and Dragoon areas and had reached the stage of simple incising in the Mogollon at about 900 A. D. On the other hand, life forms in pottery decoration, present in the Hohokam since the Snaketown phase, were absent in both the Dragoon and Mogollon at about 900 A. D. and appear in the Mimbres Bold Face.

The following chart shows the eastward progression of twelve traits which constitute the main current of cultural drift, and two traits moving westward that form the undercurrent or backwash.

A further substantiation of the hypothesis for a cultural drift from the west to east is found in the fact that all three of the Dragoon Red-on-Brown sites thus far excavated are closer geographically to the center of the Mogollon area than to that of the Hohokam. And yet the culture demonstrated by the excavation of these sites much more closely approximates that of Hohokam.

In conclusion it may be said with some degree of confidence that the Dragoon development, as expressed in the excavations at Gleeson, while proceeding in some respects along its own lines, has borrowed heavily from its Hohokam neighbors to the west and has almost ignored the Mogollon to the east. All but two of the traits fit perfectly into the Hohokam culture: of these, one, the pottery, has incorporated much of the Hohokam in its makeup; the other, disposal of the dead by inhumation, is foreign to the Hohokam.

CHART SHOWING CULTURAL DRIFT

Main Current Trait	Hohokam	Dragoon 900 A.D.	Mogollon 900 A.D.	Mimbres [1]
Three-quarter groove axe	Present in all phases	Present	Absent	Present
Stone Carving	Peak in Santa Cruz	Present	Simple Incising	Present
Palettes	Peak in Santa Cruz	Present	Intrusive	Present
Turquoise	Present	Present	Rare	Present
Shell Carving	Peak in Sacaton	Present	Absent	Present
Mosaics	Peak in Sacaton	Present	Absent	Inlay work
Bone Carving	Peak in Sacaton	Incising	Absent	Present
Painted Bone	Present	Present	Absent	Present
Flare-rim bowls	Present	Present	Absent	Present
Curvilinear designs	Present	Present	Very Rare	Present [2]
Life forms	Present	Absent	Absent	Present [2]
Economy	Agricultural	Agricultural	Hunting	Agricultural
Backwash or Undercurrent				
Inhumation	Intrusive in Sacaton —more prevalent in Classic	92% (Gleeson)	95%	99.9941%
Polished Pottery	Intrusive in all phases	Present but not strong	Dominant type	

[1] Cosgrove, H. S. and C. B., 1932.
[2] Haury, E. W., 1936a, pp. 24–5.

OBSERVATIONS

William Shirley Fulton

The Gleeson site has proved exceedingly interesting. Except for a difference in method of burial, it would seem to be basically Hohokam with little Mogollon influence. In all other respects, variations from what is now considered to be typically Hohokam may be explained by the usual considerations of different clays, inventive ability, and subtypes. Those, however, to whom such explanations are not acceptable, are compelled to search farther afield for the beginnings of the Dragoon development as exemplified at Gleeson.

In northern Mexico, probably, we should seek the emergence of a major culture which, while yet there, was influenced by contact, perhaps with Mogollon, possibly with a culture of which at present nothing is known, and evolved the phase that we term "Dragoon."

It appears, to this observer at least, that Dragoon came to the Gleeson site as a developed entity. As most of the artifacts associated with the Hohokam in its various phases—the three-quarter groove axe, the stone palette, the figurine, carved bone and worked shell—are found there in a full state of development, we should expect that the pottery would embrace equally evolved wares typically Hohokam. Such is not the case. For the most part, the ceramics, particularly the decorated pieces, are something quite distinct.

Gleeson pottery, from careful sherd analyses, is definitely Dragoon, with the distinguishing features of that ware—a rough, sandy finish on exteriors that present a multitude of firing clouds and paint smears, and Hohokam elements

and designs as decorative treatments of the painted surfaces. Some few vessels found at Gleeson are unquestionably Mogollon, based on our present classification of those ceramics; but, though Dragoon wares more closely resemble Hohokam than Mogollon, none of the pottery presumably made on the Gleeson site shows the porous paste nearly always associated with the former; nor are several of the types associated with Hohokam sites, flare-rimmed and thick-walled vessels for instance, found here.

Another distinguishing feature of decorated Dragoon ware, secondary firing, is also present in many of the painted bowls from Gleeson. In both Hohokam and Mogollon the design was applied before firing so that the pigment became homogeneous with the slip foundation. In Dragoon, it appears from many examples that the process of firing the slip and the design was accomplished in successive operations. In no other way can we explain the presence of paint smears which, themselves, have been subjected to firing, partially obscuring firing clouds on the exteriors of many bowls. As these clouds could not have formed beneath paint previously applied, an assumption of double firing seems justified.

No attempt has here been made to add Dragoon to the already large and still growing list of basic cultures of the Southwest even though there seems to be some justification for suggesting the possibility that it might be a parallel, independent stem of the same parent stock as some of those now so classified. Whether or not Dragoon is considered eventually to be not a basic culture but merely a phase of the Hohokam—a premise supported by most of the present students of Southwestern archaeology—there can be no question that its ceramic expressions present strong and definitely stylized forms that held constant among its potters.

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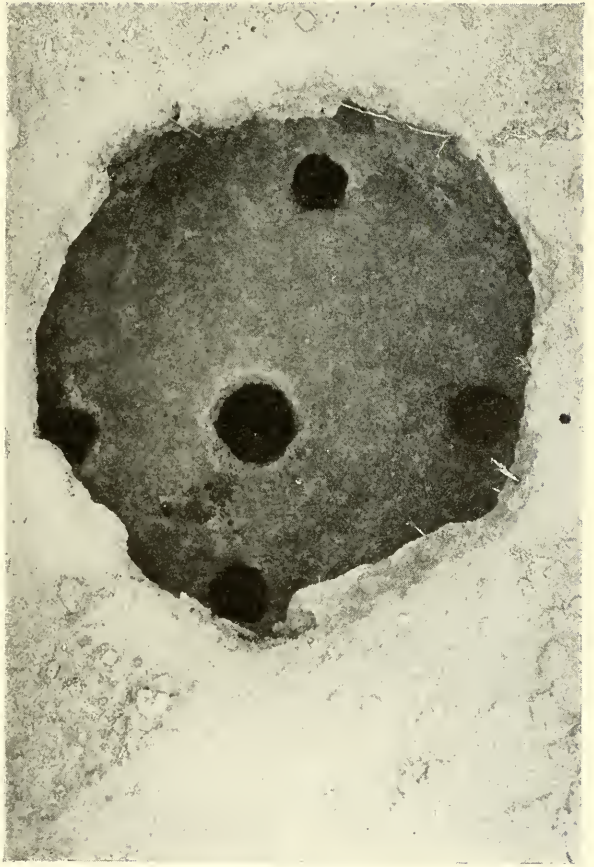
TURQUOISE QUARRY

VIEW OF GLEESON SITE

PIT-HOUSE NO. 1

ABOVE: DETAIL OF REED GROOVE

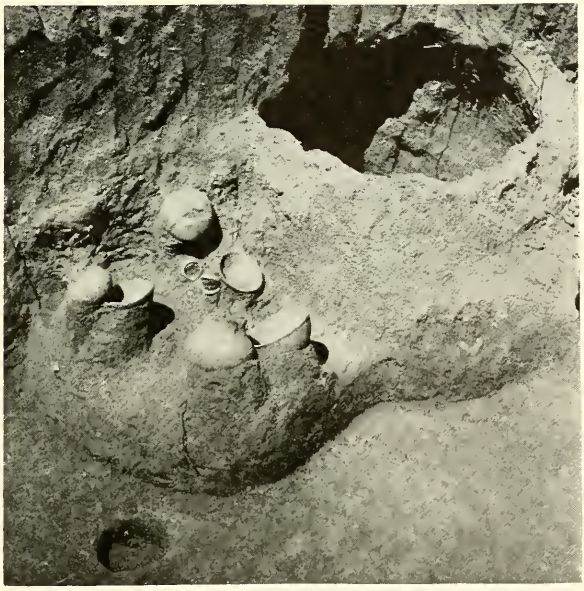
PIT-OVEN NO. 12
CROSS-SECTIONED AND OUTLINED



PIT-OVEN NO. 39
VIEW FROM ABOVE

DOUBLE BURIAL

BURIAL IN ABANDONED PIT-OVEN



INHUMATION WITH ACCOMPANIMENTS *in situ*

CREMATION WITH ACCOMPANIMENTS *in situ*

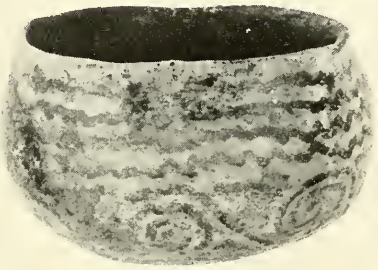
BEADS RESTRUNG

CREMATION ACCOMPANIMENTS
BEADS *in situ*

BOWL INVERTED OVER BEADS
LONG DIAM. 6⅝ IN.

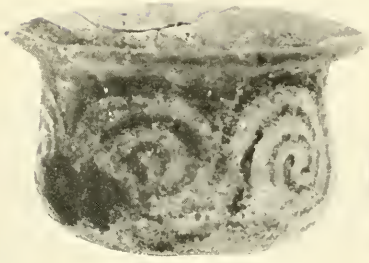
BOWLS WITH INTERIOR DECORATION

DIAM.: *a*, $6\frac{1}{8}$ IN.; *b*, $9\frac{1}{4}$ IN.; *c*, $14\frac{1}{16}$ IN.



a

b



c

d

VESSELS WITH EXTERIOR DECORATION

DIAM.: *a*, 5⅛ IN.; *b*, 4¾ IN.; *c*, 4⅛ IN.; *d*, 5¼ IN.

a

b

c

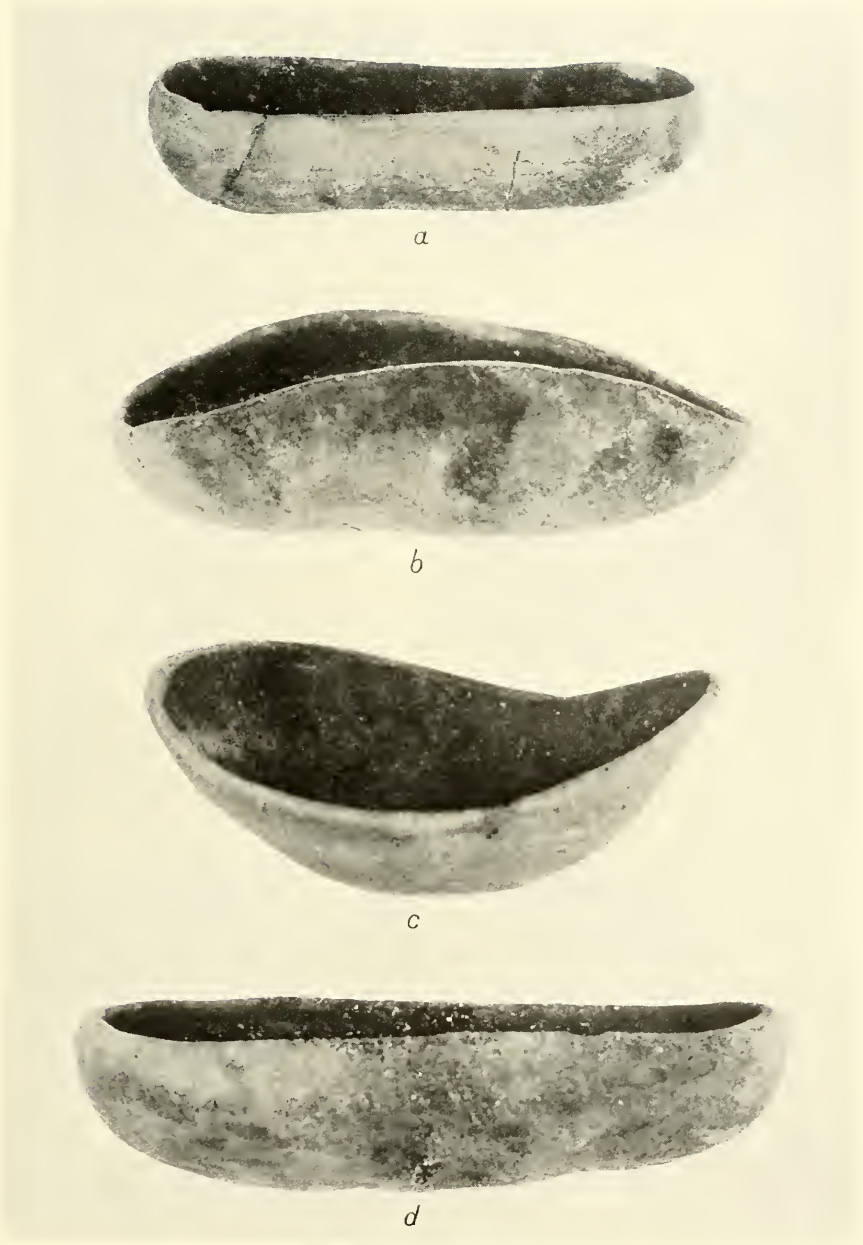
d

VESSELS WITH EXTERIOR AND INTERIOR DECORATION

DIAM.: *a*, $4\frac{1}{8}$ IN.; *b*, $3\frac{3}{16}$ IN.; *c*, $4\frac{7}{8}$ IN.; *d*, 5 IN.

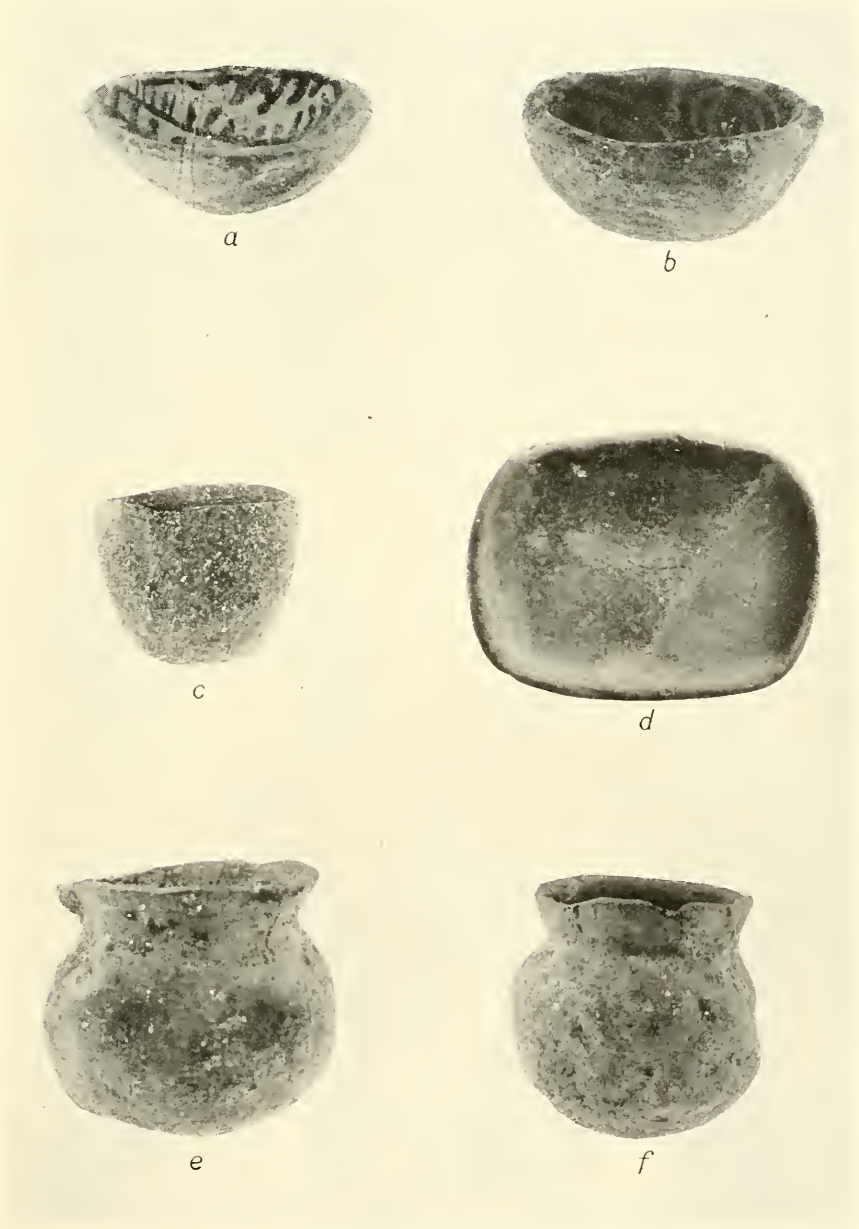
PLAIN-WARE VESSELS

DIAM.: *a*, 3⅛ IN.; *b*, 7¾ IN.; *c*, 3⅞ IN.; *d*, 8¼ IN.; *e*, 10½ IN.



ELONGATED VESSELS

LENGTHS: *a*, 7 5/8 IN.; *b*, 7 IN.; *c*, 7 1/4 IN.; *d*, 7 7/8 IN.



MINIATURE VESSELS

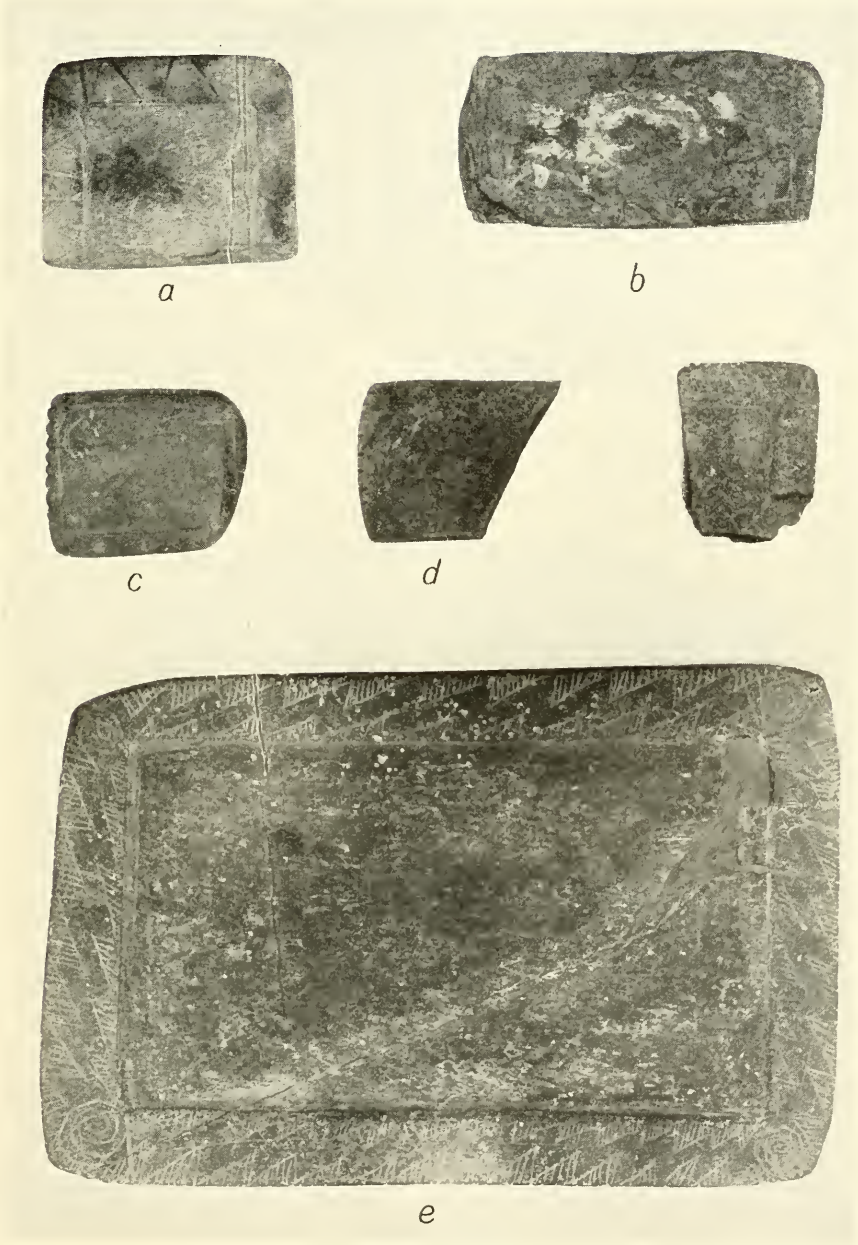
a, DIAM. 2½ IN.; *b*, DIAM. 2⅜ IN.; *c*, HEIGHT 1¾ IN.; *d*, LENGTH 3⅛ IN.; *e*, DIAM. 2 IN.; *f*, DIAM. 2 IN.

CLAY FIGURINES

HEIGHT OF *j*, $4\frac{1}{5}$ IN.

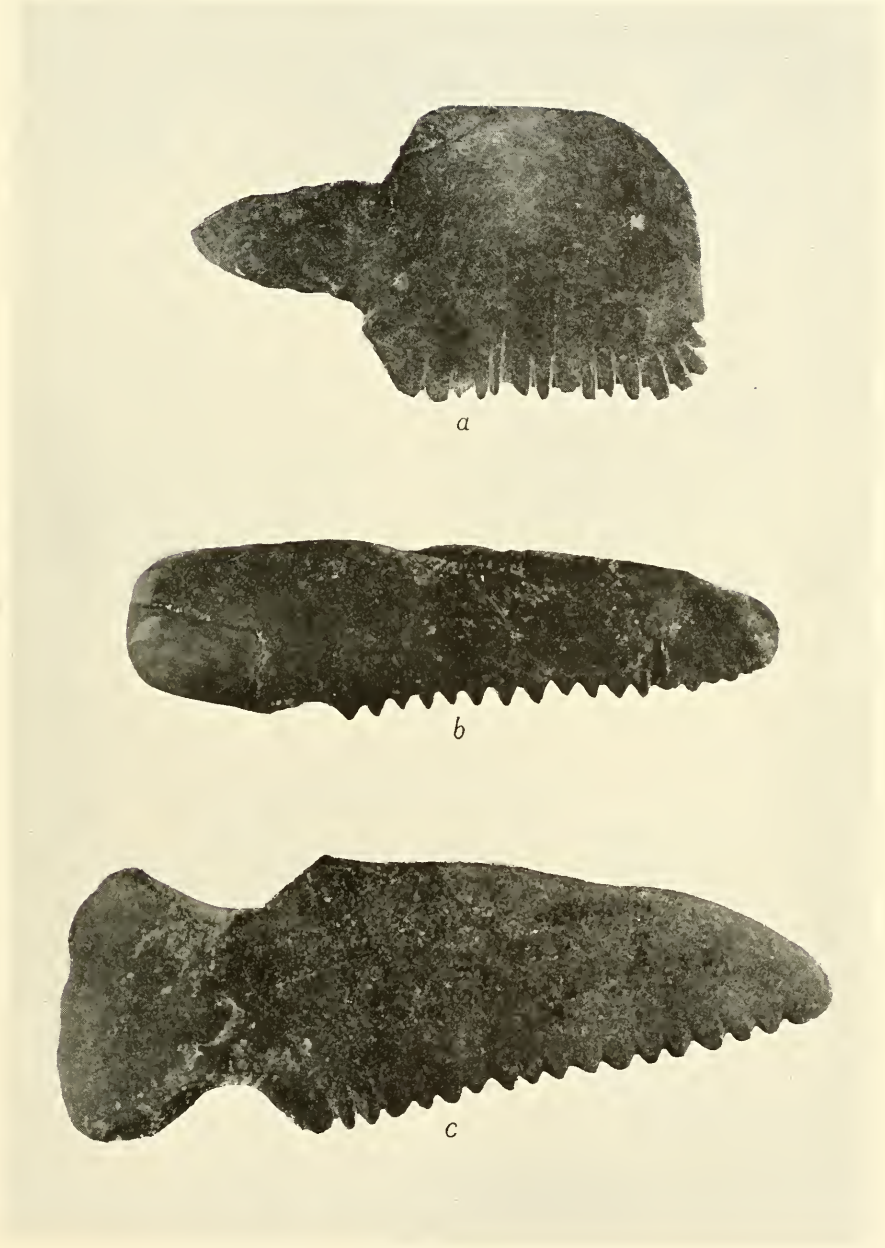
STONE AXES

LENGTH OF *c*, 5 IN.



STONE PALETTES

LENGTH OF *e*, $8\frac{3}{16}$ IN.



STONE COMBS

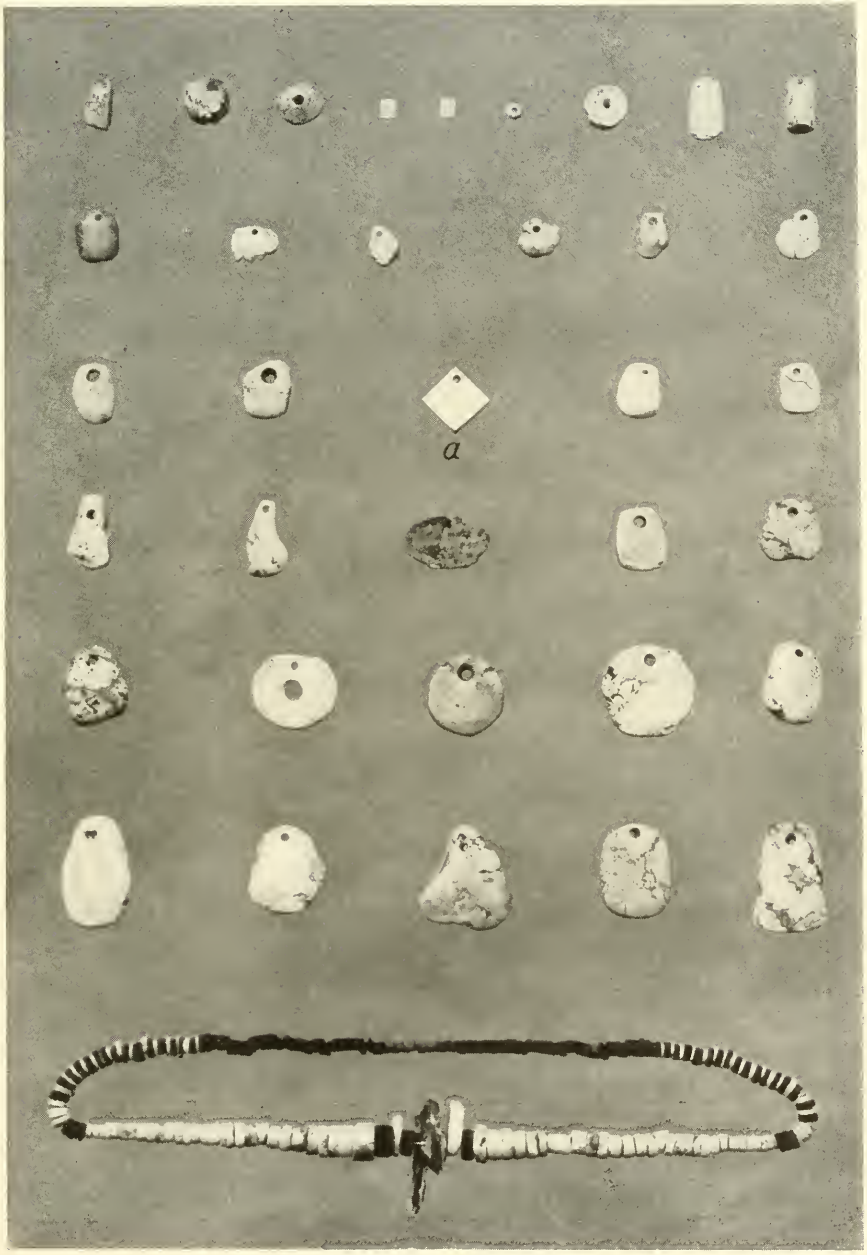
LENGTH OF *c*, 7½ IN.

MISCELLANEOUS OBJECTS OF STONE

a, FOUR POINTED STONE; *b*, ANIMAL EFFIGY; *c*, PLUMMET; *d*, INCISED MORTAR; *e*, MORTAR WITH DESIGNS INCISED AND IN RELIEF; *f*, ANIMAL EFFIGY; *g*, PIPE. LENGTH 3 IN.

STONE ORNAMENTS

LENGTH OF *l*, 2⅜ IN.

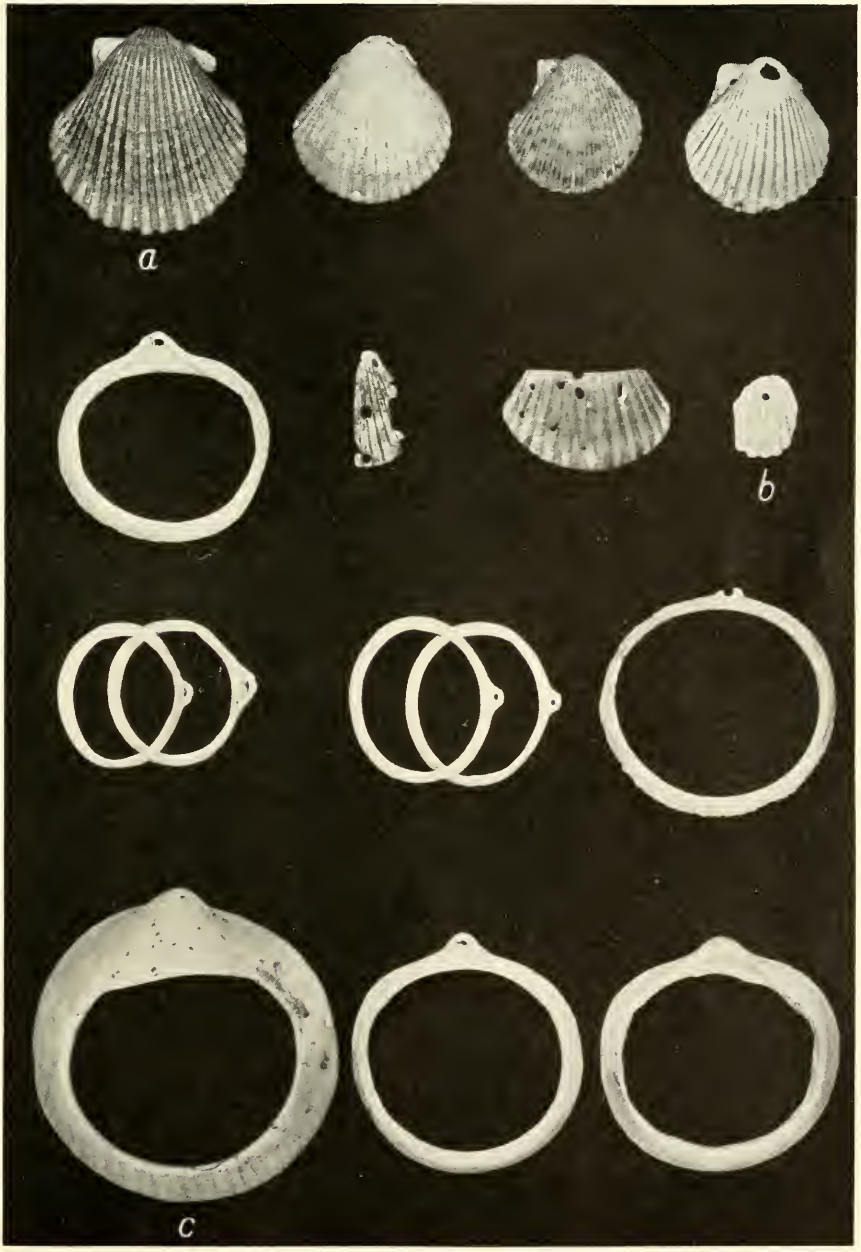


TURQUOISE ORNAMENTS

DIAG. WIDTH OF *a*, $\frac{5}{16}$ IN.

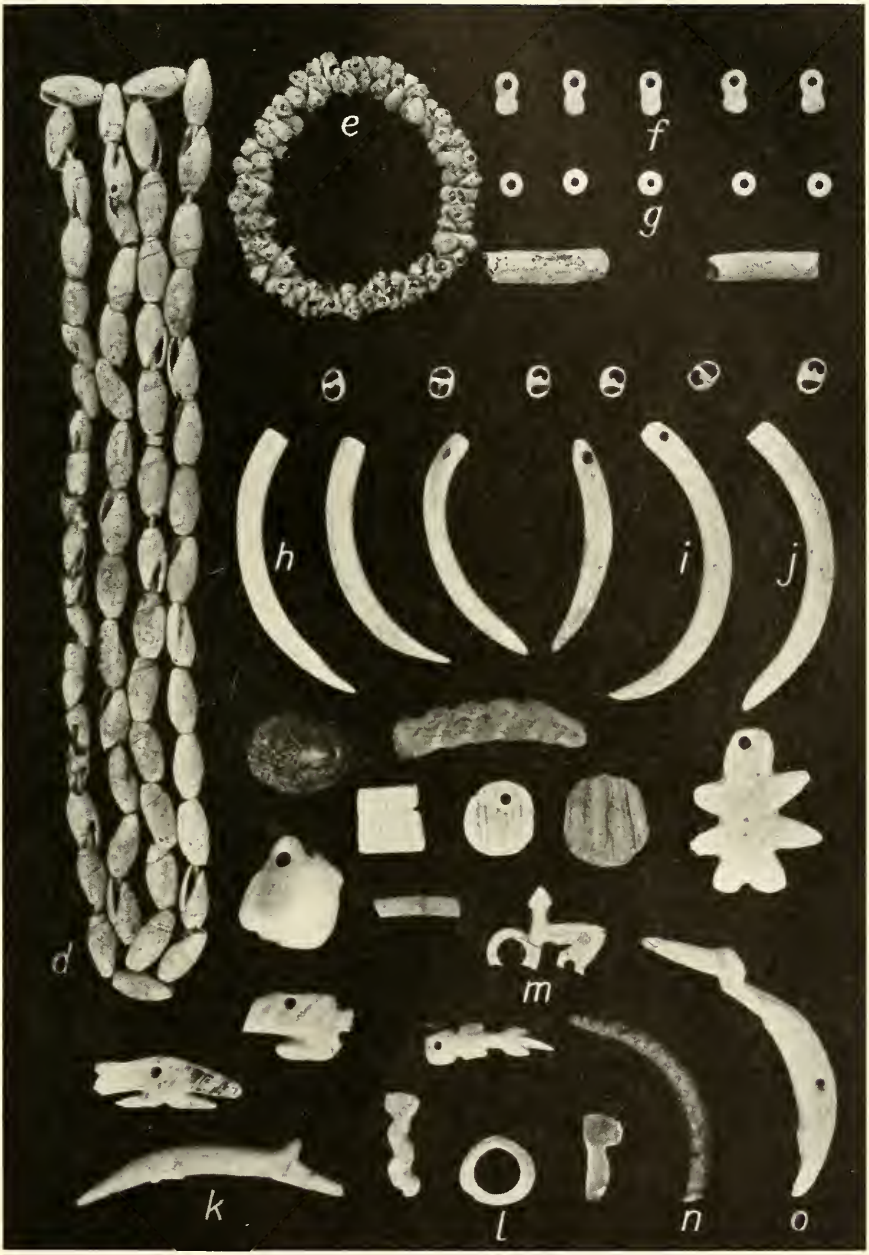
STONE POINTS AND DRILLS

LENGTH OF *a*, $2\frac{1}{16}$ IN.



SHELL BRACELETS AND ORNAMENTS

DIAM. OF *c*, $3\frac{7}{8}$ IN.

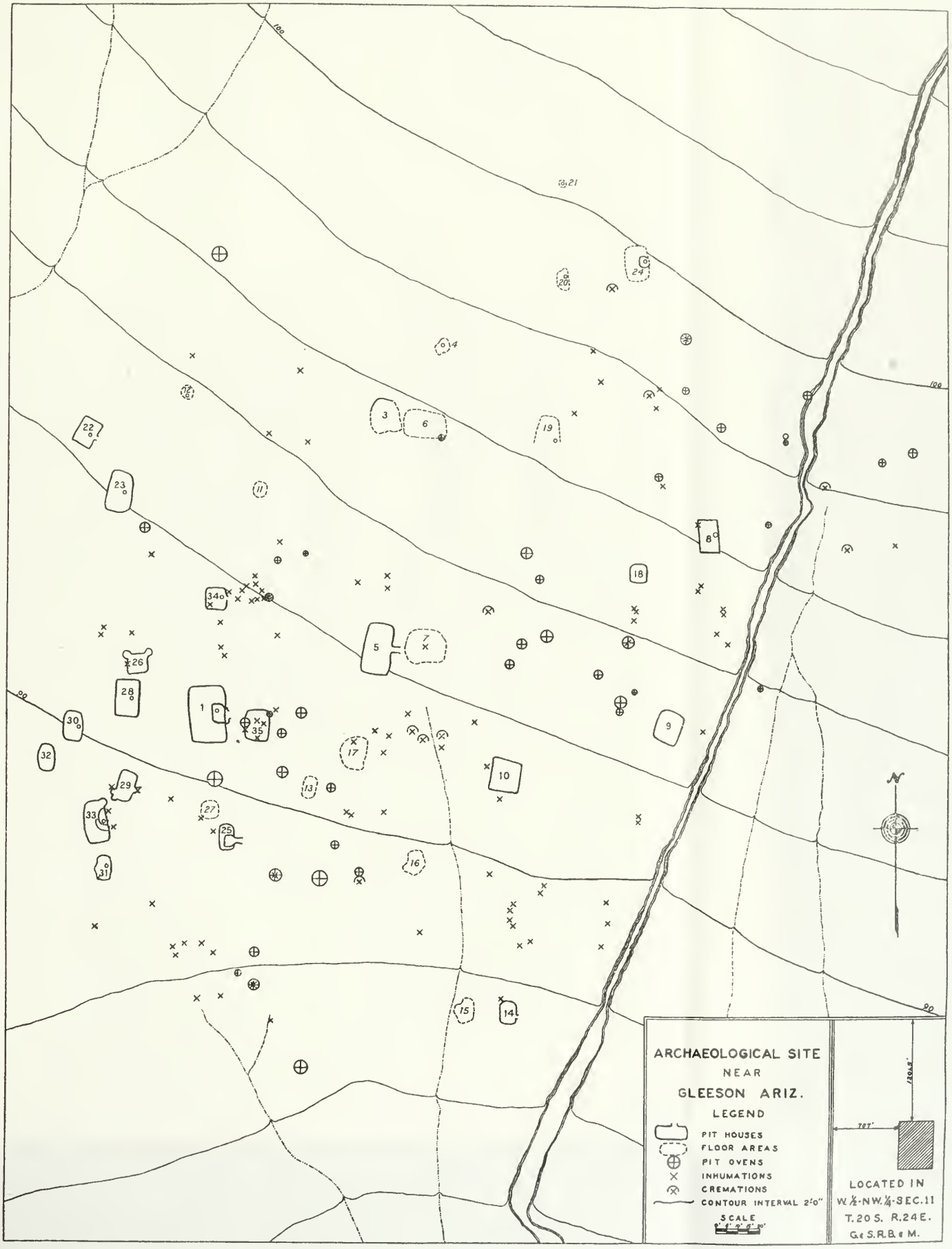


SHELL BEADS AND MISCELLANEOUS ORNAMENTS

LENGTH OF *o*, $2\frac{7}{16}$ IN.

OBJECTS OF BONE

LENGTH OF *l*, 8 3/8 IN.


ARCHAEOLOGICAL SITE
NEAR
GLEESON ARIZ.
LEGEND
PIT HOUSES
FLOOR AREAS
PIT OVENS
INHUMATIONS
CREMATIONS
CONTOUR INTERVAL 2'-0"
SCALE
LOCATED IN
W.½-NW.¼-SEC.11
T.20 S. R.24 E.
G.& S.R.B.& M.

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